

'It's Important to Know In Time'

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Air Conditioning & REFRIGERATION

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NEWS

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'Conservation' Will Keynote Leagues' Activities in 1942

Appliance Servicing Seen As 'Life-Saver' For Most Dealers

By T. T. Quinn

WASHINGTON, D. C.—As far as local conditions permit, electrical dealer associations will continue their appliance promotions during 1942, but the keynote of such campaigns will be one of "conservation" of present equipment through proper servicing—rather than the encouragement of new applications and wider uses of electric power through increased sales, as has been the case in the past.

This shift away from normal promotional practices in view of national defense requirements was emphasized by speaker after speaker at last week's sixth annual conference of the International Association of Electrical Leagues at the Raleigh hotel here.

In contrast with league sessions of the past, where the primary consideration was given to successful plans and programs used in the past, this year's conference was concerned almost entirely with "futures"—keeping electrical appliance dealers in business during the present period of appliance shortages, and looking ahead to possible appliance sales conditions after the emergency period has passed.

Naturally, the problem of keeping the dealer in business is the one of most immediate concern—and in this respect it was emphasized that the dealer most likely to survive is the one who can keep his customers with him through proper attention to appliance servicing. With fewer new appliances to sell, the dealer who can capitalize on his service department can build up a huge backlog of new-appliance customers for post-emergency sales.

That leagues have been quick to recognize the potential value of proper appliance servicing in holding present customers for future business is evidenced by the fact that, in addition to the widely discussed "Edison Plan" in New York City, league-approved central servicing programs have been inaugurated recently in two cities, New Orleans and Hartford, Conn., and a "lecture course" for commercial refrigeration service men has just been begun in Philadelphia. Workings of these programs will be outlined in next week's News.

This greater importance of servicing, of cultivating the replacement market, in the appliance merchandising of the future was keyed by Arthur P. Hirose, director of market research and promotion for McCall Corp., in predicting that 1942 will be a buyer's, not a seller's, market, and urging that the industry "get rid of any complacency" it may have.

(Concluded on Page 16, Column 2)

Directs Kitchen Bureau



EDWIN VENNARD

MKB Names Vennard Chairman For 1942

NEW YORK CITY—Edwin Vennard, vice president of Middle West Service Co., Chicago, will serve as chairman of Modern Kitchen Bureau for 1942.

After experience in the General Electric testing department, Mr. Vennard joined Gulf States Utilities Co. as power sales engineer. He later took the same position with Southwestern Gas & Electric Co., an operating unit in the Middle West System, and was advanced to commercial manager in charge of sales and rates, before joining Middle West Service Co. His present duties include sales, rates, advertising, employee information, and customer relations.

Dealers Band Efforts To Hold Public's Interest In Air Conditioning

INDIANAPOLIS—Air conditioning for homes and commercial establishments will be kept before the public during the period when delivery of equipment may be slow under a program recently adopted by the Air Conditioning Council of Indianapolis. E. S. Hildreth, secretary of the council, reports that the group is making unusual efforts at this time to prevent a lapse of public interest in air conditioning.

As a cornerstone for this program

(Concluded on Page 16, Column 5)

Stores Subject To Selling Law Must Register

Form Must Be Filed With Reserve Bank By Dec. 31 To Get 1942 License

CHICAGO—Who must register for licensing under the Federal Reserve System's Regulation W, dealing with consumer credit, and how this registration is to be accomplished, is outlined in a notice just issued by the Federal Reserve Bank of Chicago.

All persons and organizations subject to the regulation are automatically given a license which continues until the end of the year, but in order to have a license after Dec. 31, 1941, it is necessary, on or before that date, to file a registration statement on the required form.

Such a registration statement should be filed by any person or organization which is:

(1) Engaged in the business of making instalment sales of the articles listed in the Supplement to Regulation W—this list includes refrigerators and iceboxes, washing or ironing machines, vacuum cleaners, cooking stoves, electric dishwashers, air conditioning equipment, radios and phonographs, furnaces,

(Concluded on Page 16, Column 1)

U. S. Defense Officials To Address Annual ASRE Convention

ST. LOUIS—Refrigeration in the defense program will be the central theme of the thirty-seventh annual meeting of the American Society of Refrigerating Engineers to be held Dec. 2 to 5 at Hotel Jefferson here.

Recognizing the fact that the refrigeration business today is largely concerned with government contracts, priorities, scarcity of defense materials, and the necessity for providing essential refrigeration facilities for the preservation of civilian health, the society's program committee has arranged papers and conferences dealing with these timely, vital problems.

Indicative of the trend of this year's program is the scheduled discussion by C. W. Shearman of OPM's Washington, D. C., headquarters, of the "Procedure In Government Business By the Refrigeration Industry." Also scheduled as a speaker during this same session is L. L. Needler of the Office of Agricultural Defense Relations, Washington, D. C.

Possible solutions to material shortages will be suggested by a

(Concluded on Page 4, Column 1)

Minor Changes Made In P-22 Rating Order

WASHINGTON, D. C.—A number of amendments to Preference Rating Order P-22, covering repair, maintenance, and operating supplies, were made last week by the Priorities Division, OPM.

Amendment "A" embodies three changes, designed to assist important industries heretofore not specifically covered by the order.

Amendment "C" makes two important changes. It deletes the provision of the previous order which refused assistance in replacement of equipment by improved equipment, and prohibited replacements "unless such existing installation is beyond repair." It has been found impos-

(Concluded on Page 16, Column 1)

Hotpoint Promotes Smith To General Sales Manager



G. H. SMITH

CHICAGO—G. H. "Rock" Smith has been appointed general sales manager of Edison General Electric Appliance Co., Inc. Mr. Smith has been Hotpoint general merchandising manager for the past two years. As general sales manager, he will direct all Hotpoint sales and merchandising activities.

During 16 years' progress in the electrical appliance business, Mr. Smith has become well known to appliance dealers, distributors, and utility people all over the country.

In 1925, while attending Michigan State College, Mr. Smith began selling vacuum cleaners at retail. At the same time, his prowess on the

(Concluded on Page 4, Column 1)

Informal Tax Ruling Given on Some Parts

LOS ANGELES—A control device which is capable in itself of controlling a piece of mechanical refrigerating equipment is taxable under the new Refrigeration Excise Tax. However, suction pressure throttling valves, water regulators, constant pressure and snap-action valves, solenoid valves, and refrigerant dryers are not taxable.

That's the information received by L. P. Roth of Refrigeration Service,

(Concluded on Page 4, Column 2)

'Self Refrigerated' Meat Storage In Boats Speeds Shipments To England

CHICAGO—The first shipment to England from the United States of mild cured "self-refrigerated" meats—perishable products in ordinary steamer space rather than in customary refrigerated chambers—has reached its destination in the United Kingdom, the American Meat Institute announced this week. The meat arrived in good condition after many days at sea.

This marks an important development in the shipment of meat products overseas. An ingenious method—in which quick freezing is the chief medium—which makes such shipments possible was devised by resourceful technicians in the meat packing industry as a means of increasing the flow of high-protein food to England, as desired by the United States government.

In preparing meats for shipment in non-refrigerated space under this new method they were boxed and then frozen, box and all, to extremely low temperatures and quickly placed

(Concluded on Page 4, Column 3)

Glass Shelving, Frozen Storage In New Crosleys

Materials Selected To Avoid Mid-Season Product Change

CINCINNATI—Glass shelves, a frozen storage compartment, and the patented "Shelvador" as standard equipment in every model, plus a continuing trend toward larger cabinet sizes, mark the 1942 Crosley household refrigerator line which is now being shown to Crosley distributors throughout the country.

The new line consists of seven models, of which only one is a 6-cu. ft. box, while four have a capacity of 7 cu. ft. and two boast 9 cu. ft. of storage space.

A secondary advertising theme of "Designed for Modern Marketing" has been added to the old Shelvador standby of "Twice as Much Food to the Front Within Easy Reach."

In planning the 1942 refrigerator line, reports R. I. Petrie, vice president and general sales manager of the corporation, Crosley designers and engineers were careful to select materials that may reasonably be expected to be available for some time to come. It is hoped that this forethought will eliminate the necessity of mid-season product changes due to curtailment of materials needed in the national defense program, Mr. Petrie explains.

A distinguishing feature of the new Crosleys is the band of wide stainless steel trim which surrounds the entire food compartment of most cabinets.

The plate glass shelving, it is claimed, affords perfect visibility of foods stored on all shelves, and provides a firm foundation for jars and bottles of even the smallest diameter. In certain models, shelves may be lifted out to provide extra room for bulky foods such as turkey or watermelon. All shelves are edged in chromium.

"Moist-Kold" compartments are found in two of the new models—the DM-742, a 7-cu. ft. model, and the DM-942, a 9-cu. ft. refrigerator. They provide large capacity humidified space for perishable foods requiring moist storage. Special coils provide the necessary temperatures

(Concluded on Page 4, Column 5)

Steel Cover Lids on Ranges Are Banned

WASHINGTON, D. C.—Manufacturers have been asked to eliminate steel cover lids from domestic cooking ranges by Dec. 15, 1941, the Office of Price Administration and the Division of Civilian Supply, OPM, announced last week.

These tops, usually finished in baked enamel, are used on many gas, electric, kerosene, and gasoline stoves to cover the cooking surface when the stove is not in use.

By discontinuing these covers, manufacturers will reduce production costs and at the same time make available for more essential uses about 2,500 tons of steel a year, the OPA says.

OPA already has requested makers of domestic cooking and heating stoves not to increase prices beyond the levels prevailing on Oct. 24, pending completion of studies to determine the effect on costs of curtailed production resulting from the defense program.

A long-range price program for the industry is being formulated and a meeting with domestic stove manufacturers will be held in the near future.

SPAB Seeks Detailed Production Plans Of All Industries As Step To Allocations

WASHINGTON, D. C.—The Supply Priorities and Allocations Board last week ordered OPM to obtain detailed 1942 production programs, covering every industry, as a step preliminary to actual rationing of all critical materials.

The sweeping survey will cover defense as well as civilian production, "from washing machines to tanks," a SPAB spokesman declared, and is designed to give defense officials a clear overall picture of the nation's total raw material requirements in relation to available supplies.

It was described as a "transitional step" in the direction of an overall allocations system, designed as a

more workable substitute for the priorities system in putting prime defense needs ahead of lesser defense needs, and civilian requirements. However, it is not expected that the priorities system will be entirely replaced.

Each industry must supply complete information on its month-by-month needs for production of military, industrial, and civilian items, and essential public services, SPAB ordered. Similar requirements for repair parts and capital expenditures also must be stated.

SPAB laid down the principle that, where feasible, the allocation programs for each industry would be

(Concluded on Page 4, Column 4)

Realtor Cites Need For Telling Public What Real Air Conditioning Means

NEW YORK CITY—Calling attention to general misuse of such terms as air conditioning, air cooling, and refrigeration, Lester H. Moore, vice president of Douglas L. Elliman & Co., prominent local real-estate and building management firm, recently urged the building industry to impress the distinction of what constitutes scientific air conditioning upon the public consciousness.

"The idea has grown up in the public consciousness," he said, "that air conditioning is the introduction into a room of masses of air made as cool as possible. Often it is too cool for comfort, as people who have visited an over-chilled theater or restaurant have had occasion to learn from first-hand experience.

"Scarcely ever do two people agree as to what constitutes a com-

fortable temperature. For this reason the air cooling of an entire residential building to any standard temperature throughout is bound to result unsatisfactorily.

"Scientific air conditioning provides for the control of both temperature and humidity to suit the individual desires of tenants in a building. Each tenant must be able to adjust his own apartment to suit himself, regardless of how warm or cold the other tenants maintain their suites.

"The building industry would be wise to impress this distinction of what constitutes scientific air conditioning upon the public consciousness. Real air conditioning, individually controlled, is an asset to a building; its confusion with other trade terms might make it a bugaboo to the industry."

Proposed New Jersey Industrial Law Would Widen Potential Market For Air Conditioning

TRENTON, N. J.—Potential broadening of industrial air conditioning and ventilating applications in New Jersey is embodied in pending state legislation which seeks to provide greater protection to industrial workers from toxic fumes, dust, and other hazards which have been increased by defense production activity.

"New Jersey," it was recently stated by State Labor Commissioner

John J. Toohey, Jr., "has 670,000 men, women, and minors working in 11,000 industrial plants and is the only state in which suitable provision has not been made to safeguard the health and the lives of those employed in dangerous trades."

Designed to meet the situation is a bill now before the New Jersey Legislature which would set up a bureau of hygiene and sanitation in the state labor department.

Conditioning Solves Problem in Making Bouillion Cubes

Sticking Is Prevented

NEW YORK CITY—One of the major problems confronting the manufacturer of bouillion cubes—preventing the cubes from sticking to the machines which compress and automatically wrap them—has been solved through air conditioning. Close control of humidity and temperature in the beef bouillion cube manufacturing plant of Romanoff Caviar Co. has speeded up operation considerably and aided materially in turning out a better product.

Romanoff Caviar Co. is one of the leading firms dealing in imported caviar and similar food specialties. Beef bouillion cubes, in recent years, had become one of their biggest items and increased production presented quite a problem.

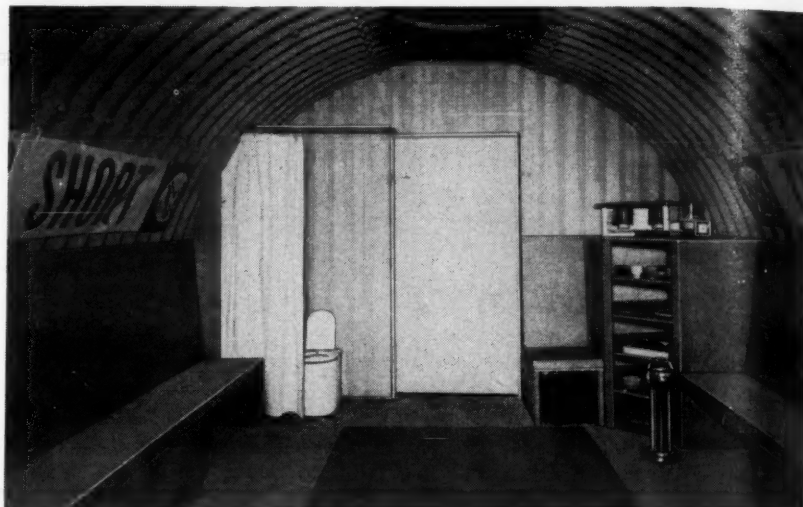
A relative humidity of 30% at a temperature of 83° F. was selected as being ideal. To maintain this condition, a Carrier Silica Gel dehydrator was installed for direct control of humidity, and a Carrier mechanical refrigeration compressor provides direct temperature control.

This is believed to be the first installation of its kind in the bouillion cube industry. Significant feature of the installation is that separate control of humidity is accomplished through use of the separate dehydration or dehumidifying equipment.

Airtemp Conditions Bomb Shelter



Constructed of highly flexible corrugated steel to resist shock this new air conditioned bomb shelter is now in the experimental stage. Stack at top center admits the air conditioning duct.



Interior of the bomb shelter is provided with benches, a little stove, cupboard of dishes, fire extinguisher, spade and other digging tools, and a toilet.

3-Hp. Conditioning System Serves Bomb Shelter Designed to Hold 30 People

HAMILTON, Ohio—First air conditioned bomb shelter ever exhibited in the United States was shown to throngs of visitors attending the Hamilton-Butler county sesquicentennial celebration here recently. Built of steel, the bomb shelter has been equipped with a Chrysler Airtemp 3-hp. air conditioning system for the safety and comfort of occupants. Capacity of the shelter is about 30 persons.

The new metal shelter, which is hardly out of the experimental stage, and not yet in mass production, may loom large in future building plans in America. Officials from all over the country came to see it, and it was exhibited again during the American Metals Congress at Convention Hall, Philadelphia, Oct. 20-24.

In order to resist shock, the shelter is built of 7-gauge corrugated steel

of high flexibility, and is designed to be buried under at least 3 feet of earth. Actually, it fits into a built-up steel box, which leaves an insulating space between the box and the rounded parts of the shelter, thus providing additional protection.

To provide proper drainage, a pit is dug at the bottom and filled with gravel and a drainage pipe is installed. The air conditioning duct enters the air-raid shelter through a stack at the center.

The bomb shelter is equipped with a little stove, a cupboard of dishes, a water cooler, fire extinguisher, spade, and other digging tools and a toilet. The shelter has one entrance door, and may be equipped with an escape tunnel at the other end. According to present estimates, the shelter will cost as much as a good automobile.

U. S. Seeks Conditioning Engineers For Work On Defense Jobs

WASHINGTON, D. C.—The Government is calling heating, ventilating, air conditioning, and plumbing engineers to national defense jobs paying from \$2,600 to \$5,600 a year. There is opportunity for immediate employment. Interested persons should apply under the civil-service examination for "Engineer."

The Civil Service Commission's representative at any first or second-class post office, or the Civil Service Commission, Washington, D. C., can furnish additional information and application blanks to those wishing to apply. No written test is given; applicants are rated on their experience and education. There is a provision for the complete substitution of experience for education.

Morton Called to Army

MINNEAPOLIS—Major Harold S. Morton, air conditioning engineer with Sutherland Air Conditioning Co. here, has reported for active service in the office of Chief of Ordnance, U. S. Army. Major Morton, who served as a captain in the ordnance department during the World War, was given his new commission after having been out of the reserve for 20 years.

72-Ton Plant Conditions Apple Storage Bldg.

ROMNEY, W. Va.—First large air conditioned apple storage building in the eastern United States, erected by the Fruit Growers Cooperative Storage Association, opened here Oct. 15, and within two weeks had stored two-thirds its capacity of 150,000 bushels of apples.

Refrigeration system consists of cooling tower and 72 tons of refrigeration supplied by two automatic machines which air condition the three-story, tile and concrete building, 120 x 100 feet with 12-foot ceiling.

Air distribution system has no pipes and blows air through a fine brine spray to maintain proper humidity and cool the apples uniformly. The system was installed by the Pittsburgh office of York Ice Machinery Co.

Staynew Filter Will Build Air Conditioned Plant

ROCHESTER, N. Y.—The Staynew Filter Corp., producer of filters for military aircraft, will construct an air conditioned plant building costing \$185,000 near its Highland Ave. factory here, Lewis L. Dollinger, president, has announced.

NO.

8

ALUMINUM,
DEFENSE,
AND YOU



OCTOBER WAS A MILESTONE MONTH

There have been three other such milestones for civilian uses of aluminum during the past 18 months.

WHEN, ON MARCH 25, 1940, the price of Alcoa Aluminum ingot was reduced from 20c to 19c a pound, it automatically increased the number of civilian applications where using aluminum would be good cost arithmetic.

19¢

Every application carries its own special set of conditions. They determine how much you can pay to save a pound of weight, to get extra heat conductivity, or reflectivity, or what not. 19-cent ingot widened the circle of aluminum's usefulness.

AUGUST 1, 1940 WAS THE SECOND milestone. Economies growing out of greater volume of manufacture, and economies stemming from continuing research, brought the announcement of 18-cent ingot. The civilian manufacturer looking to his future could see, in the offing, more ways to use aluminum than ever before.

18¢

Perhaps you were one of the thousands who filed away in your book of futures the reminder that "when this thing is over, we must figure on using more Alcoa Aluminum."

THIRD MILESTONE showed up almost before you got that note made. November 18, 1940 saw another reduction on Alcoa Aluminum ingot to 17c a pound, making a total reduction of 15% in the midst of a general seller's market. Defense got most of the immediate benefit, but the future of aluminum for you, and you, and you, was writ larger than ever.

17¢

THEN CAME 15c INGOT, effective Oct. 1, 1941, with accordant reductions in fabricated forms of Alcoa Aluminum. This means that the arithmetic of weight saving is all new, since last you figured on using this versatile metal in a civilian application. When the emergency is over, the fact is that all your old material cost comparisons will be as dead as a dodo.

15¢

THE ARITHMETIC IS NEW; but the fundamentals just get more so! More than ever, the strong alloys of Alcoa Aluminum are the answer to lightness with strength.

ALUMINUM COMPANY OF AMERICA

Big Orders For Army Refrigeration Placed In New Orleans Area

NEW ORLEANS—Confirmation on orders for several types of refrigeration and allied equipment to be used in defense cantonments has been received by General Electric Supply Corp. here, according to Tom Campbell, commercial refrigeration head.

Orders now standing call for two 140-ton capacity cold storage plants, one each for Camp Beauregard near Alexandria, and Le Garde Hospital here. Camp Shelby at Hattiesburg, Miss. will receive 78 beverage coolers of 12-cu. ft. capacity, and Camp Livingston, La., has ordered 75 similar coolers for immediate delivery. About 50 more coolers of various types are going into smaller concentration centers and training camps in the Gulf Coast region.

Most G-E appliance dealers are said to be making sales to Army officers moving into the area following the close of the recent war game maneuvers.

York Stockholders In Own Court Battle

WILMINGTON, Del.—Some preferred stockholders of York Ice Machinery Corp., seeking to intervene in the case of certain other preferred stockholders against the company, are presenting their arguments before United States District Judge Albert J. Watson of Scranton, Pa. in the United States District Court here.

The present hearing is an aftermath of a suit instituted by certain preferred stockholders to prevent the merger of York Ice Machinery Corp. with York Corp., formed by York Ice Machinery. The plaintiffs prevented the merger and obtained through the court a stipulation with York Ice Machinery Corp. providing for payment of \$80 a share to all the plaintiff stockholders and to all other preferred stockholders who entered objections to the merger.

Other preferred stockholders, being represented in the latest hearing by Howard Duane, lawyer, claim that they should be included in the stipulation, for they assumed their rights as preferred stockholders were to be included without the necessity of voicing an objection to the merger.

According to representatives of the original plaintiffs, all preferred stockholders had plenty of time to protest and share in the original action against the corporation.

Rainbault Named on OPM Advisory Group

WASHINGTON, D. C.—J. R. Rainbault, manager of the air conditioning and commercial refrigeration department of General Electric Co., has been named to a five-man subcommittee on oil burners and stokers of the plumbing and heating defense industry advisory committee recently named by OPM.

Other members are: E. C. Sammons, of Iron Fireman Co.; J. H. Simpson, of Hershey Machine & Foundry Co.; Ross Sherman, of Silent Glow Burner Corp.; and L. A. Welsh, of Hart Oil Burner Co.

McCord Net Shows An Improvement Over '40

DETROIT—An eight-month net profit of \$234,380, after \$304,000 reserve for United States and Canadian income and excess profits taxes is reported by McCord Radiator & Mfg. Co. For the calendar year 1940 net profit was \$253,086. Current assets on Aug. 31 were \$3,160,802 and current liabilities, \$2,445,429, compared with \$2,348,460, and \$1,566,123, respectively, on Dec. 31, 1940.

Clodfelter's Furniture Moves Into New Store

DUNN, N. C.—Clodfelter's Furniture Co., Norge dealer here, has just moved into a new store.

Windowless, Air Conditioned Bomber Plant Uses Much Glass - - To Control Noise, Moisture

TULSA, Okla.—Although windowless, the two 4,000-foot long air conditioned plants being constructed (one here, the other at Fort Worth, Tex.) for assembly of Army bombers probably contain more glass in the walls and roof than the largest daylight factories ever built. Glass fiber is being used for insulation and acoustical and condensation control.

Each plant will require 7,000 tons of refrigeration. Alternate layers of glass fiber and special vapor seal paper, held together with asphalt, are being combined with steel channels, roofing sections, and metal lath to give the walls and roofs maximum strength with high insulating, acoustical, and light-reflecting qualities.

Assembly buildings and most auxiliary structures are 65 feet high. A 13-inch curtain wall of face brick and acoustic block, specially reinforced, rises to height of 12 feet around the base of all buildings. The

special insulated metal wall extends from that point to the roof. Fiberglass insulation board continues down to the base of all walls through the masonry to insure control of condensation. Bolts used to anchor the upper walls of steel girders are being insulated to prevent any continuous steel contact.

By blanketing the interior walls of each structure with white fiberglass, engineers expect to provide for insulation and absorption of between 60 and 75% of all factory and office noises, as well as obtaining a light-reflecting surface which will maintain brightness at a high level.

The glass fiber products, including mats, board, and wool, for roofs alone, will total more than 5,000,000 square feet at each location, and an additional 2,300,000 square feet will be used in sidewalls. A total of 406 carloads of fiberglass, 203 for each plant, is required.

19-Man Board For Plumbing & Heating Appointed By OPM

WASHINGTON, D. C.—Formation of a 19-man plumbing and heating defense advisory committee has been announced by the Bureau of Clearance of Defense Industry Advisory Committees of the Office of Production Management.

Included on the committee are: Harold Sweatt, president of Minneapolis-Honeywell Regulator Co.; M. F. May, vice president of Young Radiator Co.; H. M. Reed, president of American Radiator & Standard Sanitary Corp.; E. S. White, president of U. S. Radiator Corp.; George Hoffman, manager of the plumbing division of Crane Co.; E. C. Sammons, vice president of Iron Fireman Co.; J. A. Doucett, vice president of Revere Copper & Brass; and G. E. Mumma, assistant supervisor of the plumbing and heating division of Sears, Roebuck & Co.

Firm Starts Work on Conditioning System For Air Raid Shelters

BATTLE CREEK, Mich.—Production has been started by United Steel & Wire Co. on parts for a \$520,000 defense contract to supply air conditioning equipment for temporary and permanent air raid shelters.

The contract was negotiated by the chemical warfare service of the War Department.

The contract is the first of its type to be let, according to Lowell B. Genebach, vice president of the manufacturing concern, and the company expects to complete it within six months.

The company normally manufactures trays and racks for refrigerators, wire baskets, and other wire products. The new contract will supplement to a great extent its dwindling commercial business, which has been considerably curtailed by priorities.



An Air-Conditioned Sandwich. Thermopane is a glass unit consisting of two, three or more panes of clear glass, separated by $\frac{1}{4}$ or $\frac{1}{2}$ inch of dehydrated air, and sealed around the edges by an airtight, moisture-proof, metal seal. Shipped to refrigerator manufacturers ready to install.

BETTER DISPLAY WITH Thermopane GLASS



● There's no fogging up between panes when cabinets are glazed with Thermopane. Simply because there isn't any moisture in the air space to condense. That air is as dry as the Sahara and is sealed up so tightly that no outside moisture can get in. This new kind of glass, sealed with metal, stays clear, easy to see through.

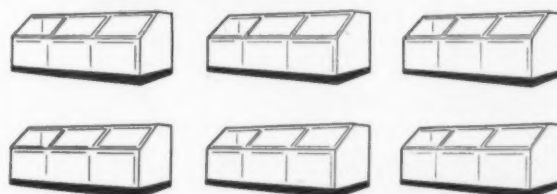
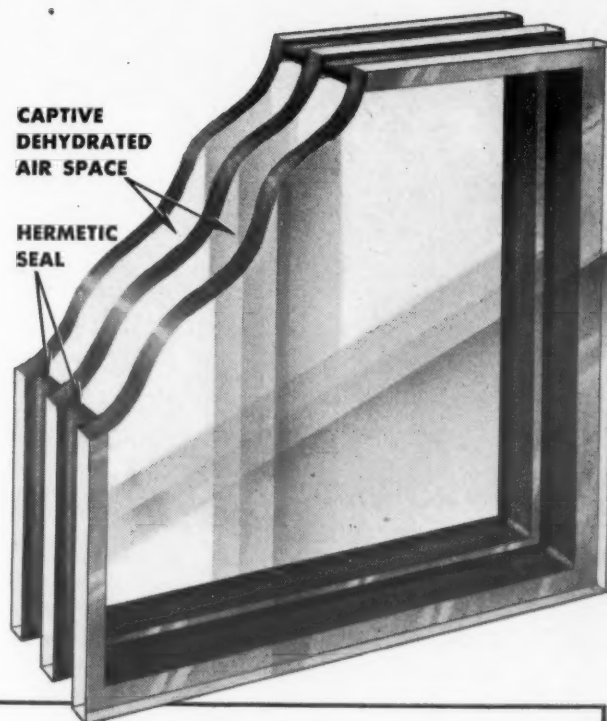
Another thing! Because there is no breathing action and no moisture between the panes, you get the high insulating efficiency of still, dry air. A half inch of triple Thermopane equals a twelve inch brick wall in insulating value.

The glass in Thermopane units is sparkling clear Libbey-Owens-Ford Polished Plate Glass. Inside surfaces are bright and clean and stay that way. Not even the finest dust can seep past the seal.

Not only because goods displayed inside the case can be seen more clearly through Thermopane, but also because this better glass is easier to install, leading manufacturers are now using it in their new commercial refrigerators.

GET COMPLETE INFORMATION

For full details about Thermopane Glass and for technical advice on its applications in their cabinets, manufacturers of commercial refrigerators are invited to write Libbey-Owens-Ford Glass Company, Dept. AC1119, Nicholas Building, Toledo, Ohio.



6 CASES CAN BE GLAZED IN THE TIME IT TAKES TO DO 1 THE OLD WAY

With a single unit of triple Thermopane to install, instead of three individual panes of glass, one manufacturer has cut his glazing time from 6 hours to 1 hour. A saving of 83% in labor! There's less handling of glass, and the time-consuming operation of cleaning and polishing the inner surfaces is eliminated. Thermopane is already clean inside, ready to install.

LIBBEY · OWENS · FORD
Thermopane
The Better Glass for Commercial Refrigerators

ASRE Meets Dec. 2 Official Explains In St. Louis Taxes on Controls

(Concluded from Page 1, Column 3)
forum on substitute metals, a luncheon discussion of substitute refrigerants, and a talk on plastics by G. C. Gress of Monsanto Chemical Co.

A discussion of government specifications, and recognition of the York plan of pooling the facilities of industrial plants for cooperative defense production also are included on the program.

Realizing that attention to technical progress is more than ever essential in the face of new demands being placed upon the industry, the A.S.R.E. program committee has arranged for presentation of such topics as the heat transfer of evaporating "Freon" in tubes, metals for sub-zero temperatures, recent developments in large ammonia absorption systems, and allies of refrigeration in meat preservation.

Smith Named Hotpoint General Sales Mgr.

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football field brought him the nickname of "Rock" Smith.

After leaving Michigan State, he joined Hurley Machine Co., and soon was offered the position of sales manager by C. J. Litscher Electric Co., Grand Rapids, Mich., Hurley distributor in that territory. His early experience also included positions with Caswell, Inc., Detroit, and Clark-Adams, Inc., Atlantic City.

In 1933, Mr. Smith became laundry equipment specialist for Detroit for General Electric Co. Soon afterward he became assistant manager of the G-E heating device section, Bridgeport, Conn., then manager of the sun lamp section. Later he was named Detroit district appliance sales manager for General Electric Supply Corp.

He joined the Hotpoint organization on Nov. 1, 1936, as manager of the home laundry sales division. In 1937 he became manager of the refrigerator sales division, and was made general merchandising manager of all five Hotpoint home appliance lines in the fall of 1939.

(Concluded from Page 1, Column 4)

Inc. from D. C. Bliss, deputy commissioner, Internal Revenue Department, in answer to a direct inquiry.

Mr. Roth forwards the reply he received from the Office of the Commissioner of Internal Revenue:

Treasury Department
Office of Commissioner of
Internal Revenue
Washington, D. C.

Refrigeration Service, Inc.

Attn.: Mr. L. P. Roth
Los Angeles, Calif.

Gentlemen:

Reference is made to your letter relative to the taxability of the refrigerator controls depicted in your catalog No. 12, which was submitted with the letter.

You assume that primary electrical controls which, in domestic type refrigerators, were taxed under the former excise tax law will continue to be subject to tax, and that this type of control for both commercial and domestic refrigerators, etc. will be subject to manufacturers' excise tax under section 3405 of the Internal Revenue Code, as amended. Information is requested with respect to the taxability of suction pressure throttling valves, pressure operated water regulators, constant pressure valves, snap-action two-temperature valves, solenoid valves, and refrigeration dryers.

Tax attaches under the provisions of section 3405 of the Internal Revenue Code, as amended, with respect to sales by a manufacturer, producer, or importer of a device, such as those listed on pages 29 to 34, 36 and 37 of your catalog, which is capable in itself of controlling refrigerating plants, refrigerating systems, refrigeration equipment or units, self-contained air conditioning units; or refrigerators, beverage coolers, ice cream cabinets, water coolers, food and beverage display cases, food and beverage storage cabinets, ice-making machines, and milk cooler cabinets, each such article having, or being primarily designed for use with, a mechanical refrigerating unit, operated by electricity, gas, kerosene, or gasoline.

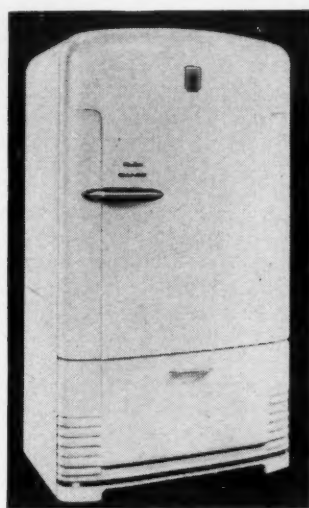
No tax attaches with respect to the sale of suction pressure throttling valves, pressure operated water regulators, constant pressure valves, snap-action two-temperature valves, solenoid valves, and refrigeration dryers.

D. C. BLISS,
Deputy Commissioner

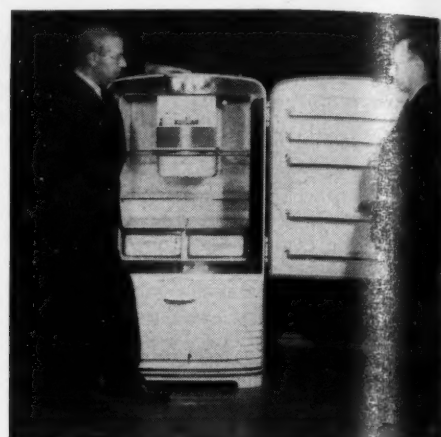
Crosley's 1942 'Shelvador' Line Makes Its Bow



Left—Streamlined style is the keynote of both of these models—Jerry Courtney, University of Cincinnati co-ed, and Crosley's "Super Shelvador."



Center—One-piece, all-steel, fused construction from top to bottom marks the cabinet of the new Crosley. Right—R. C. Cosgrove, vice president and general manager of Crosley's manufacturing division, and R. I. Petrie, vice president and general sales manager, inspect a new model.



dent and general manager of Crosley's manufacturing division, and R. I. Petrie, vice president and general sales manager, inspect a new model.

Meat 'Refrigerates' Itself on Ships

(Concluded from Page 1, Column 4)

in steamer holds which had been especially prepared to receive them. Cold from the meat forced the warm air out of the holds. Instead of the usual insulation, the ship's bottom and sides were insulated with lard which also had been boxed and frozen at below zero temperature; the holds being sealed by placing on top of the boxed meats more of the hard-frozen lard. Each box contained two 28-lb. blocks of lard, which product the British also need. No refrigerating machinery was employed on the ship, but special methods were used in connection with the placement of the insulating lard.

Commenting, Geo. A. Schmidt, president of Stahl-Meyer, Inc., New York, and chairman of the board of the American Meat Institute, said: "No matter whether or not refrigerator ships are available, the United States will be able to deliver meat to England in good condition. This new method of shipping will ease the effects of any shortage of refrigerated space or release it for the carrying of other products of a perishable nature. This new method of shipping meat may be of great assistance in keeping the people of the United Kingdom well supplied with meat."

"Nutritional science recognizes that an adequate diet is of importance in maintaining morale and stamina. Pork, which made up the shipment, is one of the richest natural sources of B vitamins."

Allocations Setup To Follow OPM's Study of All Needs

(Concluded from Page 1, Column 2)

developed so as to assure minimum quantities of critical materials to essential industries whose operations have been curtailed, i.e., enough material to meet their needs under the curtailment.

The allocations system for many months to come cannot be developed sufficiently to replace priority action in a great many industries, because of the time required in assembling data and setting up new operating machinery, it was explained. The SPAB policy decree, however, put the government squarely behind the rationing idea as a fundamental of defense administration.

While the allocation system has been applied in part to several industries, the new step means that for the first time a manufacturer will have a government guarantee that he will obtain the amount of material allocated to him. Heretofore, the programs have allowed manufacturers to use specified amounts of materials—if they found it possible to obtain them through priorities action.

OPM simultaneously issued an administrative order setting up machinery by which the program is to be developed, and outlined the manner in which the various industrial branches and other units of OPM are to cooperate. A new system of handling preference ratings in accord with this program also was instituted.

New and Improved 'Use' Features Mark Crosley '42 Models

(Concluded from Page 1, Column 5)

for these compartments, and the Crosley "Ventilair" controls the degree of moisture for different conditions of food storage.

Porcelain meat chests in models DM-942, SE-942, DM-742, and SE-742, store from 10 to 14 pounds of roasts, poultry, steaks, or chops. A glass meat chest is provided in model S-742.

Storage for leafy vegetables is provided in the sealed crispers. Removable plate-glass covers do extra duty as shelf space. Crisps are of porcelain drawer type in models S-742, DM-742, SE-942, and DM-942. Model SE-742 has twin crispers.

The new and larger "Storabin," providing plenty of non-refrigerated space for dry vegetables and canned goods, is incorporated in models SE-742, ES-942, DM-742, and DM-942.

A frozen food compartment is provided in each of the new models, with room for meats, ice cream, and three or more ice cube trays.

The new Crosley refrigerators are powered by the "Electrosaver" sealed unit which is backed by a five-year protection plan.

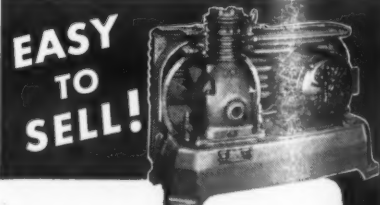
The 10-point temperature regulator with which most models are equipped has a white plastic dial face with easy-to-read numbering and lettering.

Quick-release ice trays constructed so that ice cubes may be released easily, two at a time, are standard equipment in every Crosley refrigerator.

Cabinet doors have 3 full inches of insulation, plus a thick rubber gasket. Door liner is of plastic.

The Super Shelvador contains individual egg-nests for 32 eggs. Shelf bottoms are removable for easy cleaning. The bottle shelf holds nine standard 12-oz. bottles, and the dairy shelf provides room for small jars, tins, packages, cheese, mayonnaise, and butter, all within easy reach. On the fruit shelves may be stored up to two dozen assorted fruits.

A new door latch, exclusive with Crosley refrigerators, is claimed to close firmly with a light touch. It is constructed of white plastic and chromium, and is backed by a stainless steel plate.



More than 20 years of high reputation...in every kind of refrigeration service...has established the name "Lipman" as a BUY word that breaks down sales resistance. Make this reputation your sales asset...for greater profit and better customer satisfaction.

GENERAL REFRIGERATION DIVISION
Yates-American Machine Co.
Dept. AC-1
Beloit, Wisconsin

KEEP 'EM RUNNING

...with DAVISON'S

SILICA GEL

the industry's "PREFERRED" drying agent



The service engineer has a mighty job ahead of him—a job that looms bigger with every passing day. But—you can rest assured that from now on GOOD SERVICE will pay dividends!

That's why so many service engineers have swung to Davison's Silica Gel—have made it their standard drying agent. They have found that Silica Gel's greater capacity, greater speed of action and freedom from dusting add up to customer satisfaction that pays off in real dollars. And another thing—it's a grand feeling to know that you've done a BETTER job—a job that is helping the industry in its time of need.

Switch to Silica Gel—and learn that there IS a difference in drying agents. Your dealer can supply you with Silica Gel charged dehydrators or Silica Gel in bulk for refill.



TESTED IN THE LABORATORY AND PROVED IN THE FIELD

THE DAVISON CHEMICAL CORPORATION
Silica Gel Department
BALTIMORE, MARYLAND

12 TO 71 CU. FT.

MOST COMPLETE 'REACH-IN' LINE ON THE MARKET!

Here's the widest selection of sizes and styles the industry affords—a model for every need. Distinguished by superb styling, fine construction and outstanding value.



Model 120 (above) has 12 cu. ft. capacity—the newest member of the "Midwest 'Reach-in'" family.



Model 700 (right) another new model has 71.5 cu. ft. capacity. In between is a full range of sizes and equipment. Write for full details now.

★ ★ **Midwest** MFG. COMPANY
Galesburg, Ill., U.S.A.

Export Division, 176 W. Adams St., Chicago
New York Office, 1775 Broadway

Philco Starts National Program For Its Refrigeration & Conditioner Servicemen

PHILADELPHIA—Two complete national service programs—one for refrigeration and one for portable air conditioners—are being instituted by Philco Corp. to insure adequate service facilities and proper installation of these products to the distributor, dealer, and customer.

These programs will be similar to the radio servicing program which Philco introduced some time ago. This has grown to a membership of 30,000.

Under the refrigeration and air conditioner service programs, service men members will receive an 11 by 8 1/2-inch certificate for display purposes, will attend service meetings, and will be sent service literature from the factory. They will be set up as an "Authorized Philco Refrigeration Service Station," or Authorized Philco-York Portable Air Conditioning Service Station.

Philco field service engineers will conduct meetings introducing new models, explaining in detail, design, engineering, operation, and servicing. Service bulletins describing details of installation, principles of operation, technical information, and other material on Philco products and those of other manufacturers will be sent regularly to members.

Philco distributors will serve as local headquarters for these pro-

grams and have been assigned the task of actually rounding up members for the two organizations.

Distributors are advised by Philco to have their service manager personally inspect the shop and equipment of each applicant and determine whether he is qualified to do a thorough job on this type of equipment before accepting the application. There are two application forms, one for refrigeration service, the other for air conditioning.

After the application blanks have been inspected by the distributor, they will be examined at factory headquarters and checked over by factory field service engineers, if possible, before acceptance.

Distributors should first sign up the service men of their best dealers, or the outside service organizations that handle the dealers' work.

Kansas City Dealers Join to Present Ads On Appliance Credit

KANSAS CITY, Mo.—In an effort to bolster the courage of low-income appliance prospects who feel they cannot buy under the present stringent credit regulations, 49 appliance dealers and the local electric utility joined in a series of credit-faith advertisements run here during September and October.

Designed to build up public knowledge of new plans, the advertisements were headed with a banner reading "Can I Still Buy Electrical Appliances on Term Payments?" Underneath was a line reading "The Answer is Yes." Then followed a description of the major appliance minimum down payment and maximum monthly terms, including average carrying charge. The statement that with higher defense incomes, more appliances are selling for cash was also included.

The series, all full-page newspaper advertisements, was sponsored by the Kansas City Power & Light Co., and members of the Electric Appliance Dealers of Kansas City association. Results showed an immediate increase in deliveries of credit-term appliances.

Landman to Manage Union Stores Dept.

SAN FRANCISCO—J. Landman, appliance buyer for Union Furniture Co. here for several years, has been also appointed buyer and merchandise manager for the radio department of the store. He will manage appliances and radios for the six stores of the Union concern.

Dunn Furniture Plans Store to Handle Cash Sales Only

DUNN, N. C.—Dunn Furniture Co., pioneer electrical appliance dealer here, is planning to open a separate store which will deal solely in cash.

Anderson Joins Staff of C. T. Patterson

NEW ORLEANS—Andrew Anderson, formerly Chicago representative for Nash-Kelvinator, has been appointed southeastern divisional manager for the C. T. Patterson Co. here, Louisiana distributor for Kelvinator and Leonard refrigerators. He replaces Harold Tasker, who has been moved to Patterson's northeastern territory.

Sales are up considerably, demanding an increase in personnel at all points, according to A. G. Riddick, general manager, who made the appointments.

Paint Dealer Handles Line of Appliances

ST. PAUL, S. C.—Parnell & McCall, dealer in paints and general merchandise, has moved into larger quarters and taken on appliances.

Knoxville's Refrigerator Sales Hit 220 In Sept; Range Sales Stable

KNOXVILLE, Tenn.—Sale of 220 household electric refrigerators at an average price of \$156 was reported here during September by Knoxville Electric Power & Water Board, compared with the 178 units sold at an average price of \$154 during the same month last year.

Range sales this September almost duplicated those of September 1940, the figures being 186 ranges at \$148 this year, against 182 ranges at \$149 last year.

A more complete tabulation of September appliance sales in Knoxville, plus a comparison with those of last year's figures which are available, follows:

Appliance	Unit Sales Sept., 1941	Unit Sales Sept., 1940
Household		
Refrigerators	220	178
Ranges	186	182
Water Heaters	70	50
Washers	213	264
Irons	15	5
Vacuum Cleaners	47	..
Radios	513	..
Dishwashers	1	..
Disposal Units	1	..
Air Conditioning Units	1	..
Commercial		
Refrigerators	25	..
Milk Coolers	1	..

Ardussi Named Research Head For Gear Firm

CHICAGO—Wallace F. Ardussi, formerly sales manager for Airtemp division of Chrysler Corp., has been placed in charge of research and product development for Foote Bros. Gear & Machine Corp. here.

For the past 10 years Mr. Ardussi had been with Chrysler as a research and development engineer, manufacturing and production research engineer, and assistant to the president. He was graduated from the University of Michigan in 1928.

Detroit Contractors Establish By-laws

DETROIT—Progress in the organization of the Refrigeration Contractors Association of Detroit was reported at a meeting in the Hotel Statler recently. The association is now completely incorporated, accounting and billing systems have been established, by-laws have been drawn up, and several committees are functioning.

Nov. 26 is the date set for the next regular meeting at the Statler, the board of directors to meet for dinner at 6:30, the full membership to convene at 8:30 p.m.

TEN THOUSAND WORDS MAKE PRETTY PICTURE, TOO

"... great assistance in conserving our 'Freon-12'."

"... and we want to cooperate."

"... in the hands of every customer."

"... 50 copies for discussion at opening of new plant."

"... of great value to each and every service engineer."

"... helping our theatres avoid waste and losses."

"... copy on board each ship we operate."

"... happy to pass out 500 copies at our service schools."

"... show our branches how to save on 'Freon-12'."

TAKE A BOW, refrigeration service engineers. The Chinese Doctor congratulates you on the enthusiastic way you tackle the check-up service plan. It pays to keep your "patients" well... instead of just treating them when they're sick. Also, our sincere thanks for your cooperation in conserving "Freon-12."

Keep on plugging this regular check-up service. Thus, you'll be sure of continuous operation for equipment employing "Freon-12." This will keep you in good with your customers. Someday you'll cash in on all the good will... with new business.

And keep on preventing needless waste and losses of "Freon-12." This will insure the supply for new equipment. This, in turn, means more business for you.

Let us help you...

We know there's no substitute for your own practical experience. And there is literature available on handling of refrigerants. But we have lots of information on the major causes of waste and loss. So we put it all together in a convenient new booklet for you.

It's been mighty popular so far. If you don't have yours yet—as a guide to the profits of a regular check-up service—we'll be glad to send one. Why not write for it today?



BEFORE PATIENT COMES DOWN SICK—
SELLING CURE IS
EASY TRICK!

TAKE A TIP from the Chinese Doctor—who is paid to keep patients well. This service manual will help you keep your patients thinking along conservation lines.

KINETIC CHEMICALS, INC.
TENTH & MARKET STREETS
WILMINGTON, DELAWARE

CHECK LIST

FOR CONSERVATION OF "FREON"

- Do not overcharge system. Weigh a sufficient amount of "Freon" for efficient operation.
- Test system for tightness. Use dry CO₂ or nitrogen rather than "Freon."
- Evacuate shipping cylinders completely. Condense the vapor and salvage the refrigerant.
- Do not purge "Freon" into the air. Pump the "Freon" into the receiver or into a clean, dry cylinder for reuse.
- Look for accumulations of oil which have leaked from the systems. They may indicate the presence of a leak.
- Use a Halide lamp or torch to locate leaks. It gives instantaneous reaction to even minute leaks.
- Check systems at these points: Gaskets on the crankcase cylinder, Crankshaft bearing housing, Stuffing box or shaft seal, Valve stems and pads, All connections (threaded, flared, welded, brazed or soldered), Control devices, Oil separators, Compressor, Condenser, Evaporator, Auxiliary control apparatus, All castings and tubings.

"Freon" is Kinetic's registered trade-mark for its fluorine refrigerants.

FREON

safe refrigerants

How the Army Now Is Using Modern Refrigeration Equipment

Constructing Quartermaster Describes Camp Equipment & Outlines Some Future Plans

NEW YORK CITY—Use of modern refrigeration equipment in Army camps throughout the country has made the American soldier "the best fed soldier in the world," Edwin Kingsley, zone principal mechanical engineer, declared in an address delivered for Col. M. A. McFadden, Zone Constructing Quartermaster for Zone 2, before the New York State Association of Refrigeration Service Engineers at its recent convention here.

"Modern war with its blitzkrieg tactics has not eased the burdens of those who feed the armies," the speaker declared. "Modern equipment has, however, kept pace with the advance, and experience has shown that during the military maneuvers in the South the American soldier is the best fed soldier in the world."

"When the United States entered the first World War, few, if any, realized the tremendous organization which it would be necessary to create for the service of supply—that is, provisioning and equipping an Army both in this country and abroad."

"One of the most important items

in the American soldier's diet is fresh beef. This item, besides being an important one, is one of the most difficult to deliver to the consumer in prime condition, since it must be stored and transported at low temperatures.

"When our soldiers reached France, the staff was appalled to find such a dearth of refrigerated storage facilities. There was available for the use of our forces storage capacity for considerably less than 1,000 tons of beef—probably 750 tons would be more nearly the correct amount. The General Staff cabled for materials and personnel for construction and operation, since at that time there was no refrigeration department in the Army."

"Competent engineers were obtained from such firms as Swift, Armour, Morris, and others, who were large users of refrigeration and who were familiar with the type of construction and the machinery necessary for providing refrigerated storage for perishable foods."

When the Armistice was signed, 120,000 cattle would have been required to fill all of the refrigerated storage plants built and operated by

the A.E.F. These plants were constructed under the supervision of the Engineer Corps by construction and erection forces sent over by the construction division.

"Freezer storage at Port of Embarkation is another link in the chain of cold storage facilities which must reach from the packing house to the most distant Army division."

"Normally, meat arrives at the domestic station in refrigerator cars. Where the temperatures have risen, the meat is re-frozen before being transferred to shipping having refrigerated spaces. Where railroad facilities are available, refrigerator cars are used as far as railheads, and from there the refrigerator truck is used."

THE STANDARD PLANT

"Cold storage facilities for handling perishable food supplies are taken care of at Army camps in standard mobilization cold storage buildings."

"A standard building is laid out to provide for a railroad siding for receiving supplies, and a platform for issuing on the opposite side of the building. The building is insulated with 6 inches of insulating material on sides and floors (except meat storage room, which has 8-inch insulation on walls), while ceilings have 6 inches under roof slab, and 2 inches over roof slab. Tar and gravel roofing is specified. While corkboard or mineral wools have been the materials used for protection of these buildings, other insulating materials, such as fibre glass, are replacing cork where scarcity exists."

"The building, approximately 72 x 90 ft., is divided into a number of rooms—transformer room, machinery room, one large meat storage room, one large and one small dairy and vegetable products rooms, an issue room, and an office. Provision is made for an ante-room in which is a scale for weighing in. The track hangers are continuous, following through to the meat storage space and continuing to the general issue storage where there are scales for weighing out the products to be delivered to the buildings for current use."

IN THE MACHINE ROOM

"The machinery room is designed for three compressors with motors, each unit to be connected to its evaporative condenser. Two of the compressor units are to take care of the meat storage room cooling, and are each required to have a refrigerating capacity of 160,000 B.t.u. per hour. The third unit is for the purpose of refrigerating the two dairy and vegetable products rooms and the general issue room; its capacity is rated at 268,000 B.t.u. per hour. The 'Freon' condenser temperature is figured at 100° F. in the case of the first two units, and 105° F. in the latter—suction temperature 10° F. and 15° F., respectively."

"Meat storage rooms are to be held at a temperature not over 10° F., and other rooms not over 35° F. The evaporative condensers for the two smaller units are to take care of the refrigerant from the smaller compressors, with allowance for compressor motor heat, and to operate at approximately 4,000 c.f.m., with outside air at 80° F. wet bulb, and

the larger unit is to circulate 6,000 c.f.m. under the same air condition. The compressors are furnished with either variable capacity reducers, to give 100, 75, or 50% rating, or to be supplied with variable speed motors for obtaining the same performance. Condensing coils are of such design that sprays are to be used in summer and to be shut off in winter, if found desirable."

"The meat storage room has four unit coolers, each 75,000 B.t.u. per hour; large dairy and vegetable products rooms with two coolers, each approximately 59,000 B.t.u. per hour; small room, one unit cooler of 22,000 B.t.u. per hour capacity; and issue room, two unit coolers each of 59,000 B.t.u. per hour capacity. Unit coolers are all controlled by thermostats and the four units in meat storage room are equipped with defrosters."

FOOD TO THE SOLDIER

"The entire plant is automatic, the operation of engine room being provided with suction pressure control valves."

"All compressor units are equipped with high pressure safety cutouts, and evaporative condensers operate automatically with their respective compressor units."

"The cold storage plant is designed to handle food supply for a definite number of men. Additional plants are added if necessary for larger forces. These plants act as main storage and are constantly delivering supplies to other buildings where facilities are available for immediate food supplies."

"From these cold storage plants, foods are delivered to mess buildings. At such a building as a 1,000-man mess, provision is made for storing perishables. Refrigerated rooms for meats, dairy, and vegetable products are included in such buildings. A small compressor with motor, condenser, etc., of the unit type, is installed with full automatic controls to keep temperatures at desired points. Smaller mess buildings use the portable type of automatic refrigerator. A recent program designed to mechanize all refrigerators in the various camps and Army posts involved the purchase of 12,000 conversion units, each designed to convert an ordinary ice box, using commercial ice, to a mechanical refrigerator. This is in addition to mechanical refrigeration already in use."

FOOD TRUCK PLANS

"Plans are now under way to establish a standard refrigerated truck for troops on the move—a truck designed with a refrigerating plant built into the front of the body which would freeze an eutectic solution in plates. Operation of the refrigerating unit would be by a gasoline engine, and the use of an eutectic would permit a period of, say, six to eight hours during which time the food space would be kept cool if it were necessary to do any repair work on the compressor unit or any of its auxiliary equipment. Such a period of time would allow repairs to be completed or food supplies could be moved to another truck, and thus bring losses of perishables to a minimum. If equipment of the type as described proves satisfactory, some standard for troops in the field will be a reality."

"In order to meet the demands of the program with which it was faced during 1940, the construction division of the Quartermaster Corps had to be reorganized to handle a volume of business seventy times greater than its normal load."

9 CONSTRUCTION ZONES

"The bringing together of the trained personnel to carry out this large undertaking of the constructing quartermaster was accomplished quickly in spite of the nationwide demand for trained executives and employees of all kinds. As a further step toward speed and economy, the country was divided into nine zones, corresponding with the boundaries of the nine corps areas of the Army. In each of these zones a highly competent Army officer has been placed in charge and provided with a staff of engineers, architects, construction experts, and real estate advisers who are acknowledged leaders in their respective professions."

"Establishment of the nine construction zones was effected for the purpose of facilitating supervision of construction in the field being performed by constructing quartermasters, and to expedite the building program. In all matters pertaining to construction activities under the Quartermaster General, the zone constructing quartermasters are under the exclusive control of the Quartermaster General, although subject to the jurisdiction of the corps area commanders in matters of discipline, police, and sanitation."

"That there might be no misunderstanding in regard to the policy of the control of the construction projects, a clear interpretation of the regulations governing activities was issued in January, 1941."

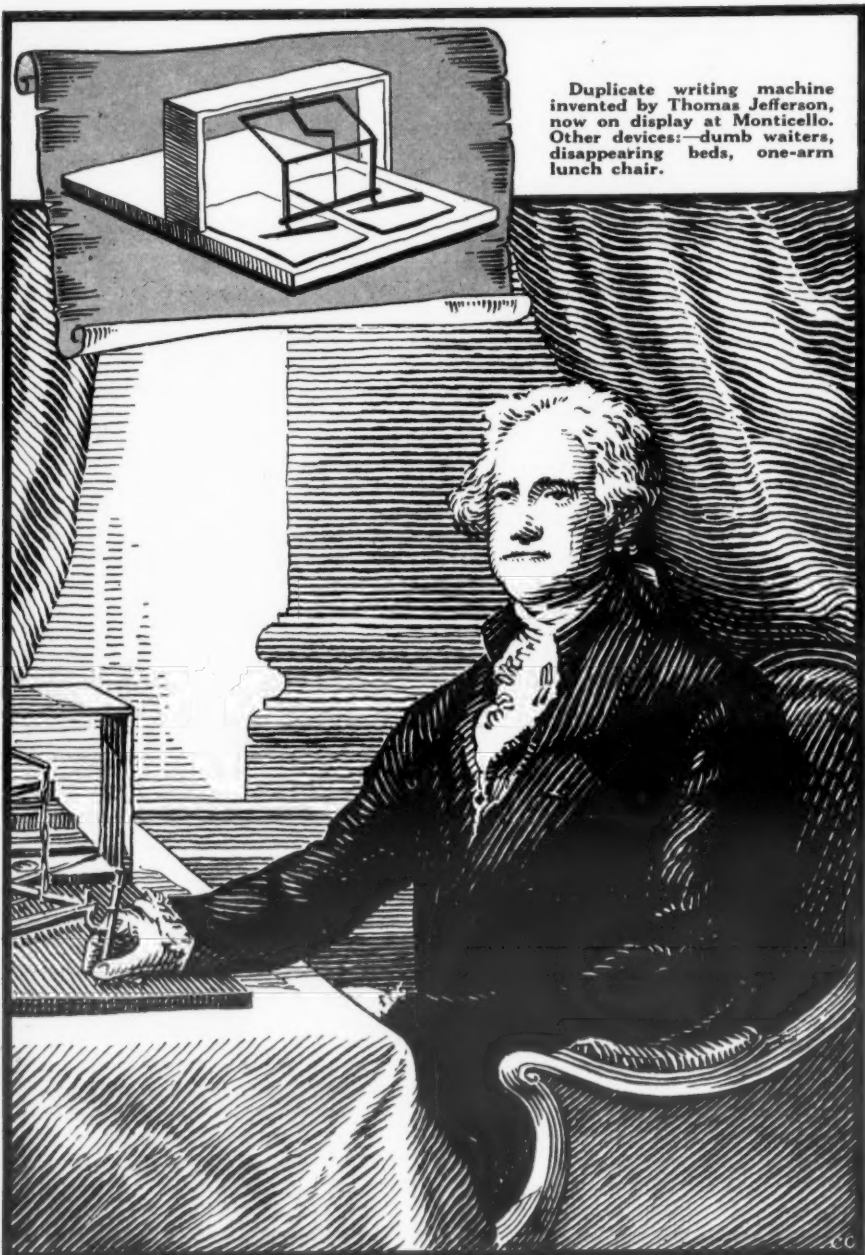
"In this exposition of policy, it was stated that present regulations provide that construction projects, including fortifications before they are turned over for use of the Army in the continental limits of the United States, are exempt from corps area control, and thus come under the direct control of the War Department Construction Agency."

"It is the policy of the War Department, whenever possible, to conform to the views of local commanders with regard to new construction. In pursuance of this policy, the recommendations of the corps area commanders are sought and approved when feasible. In so doing, it is not intended to delegate authority to the corps area commanders to control construction projects which are being accomplished by the Quartermaster General."

SERVICING OF PLANTS

"How are each of these plants serviced? Each of the Army posts has a utility officer—many of whom are reserve officers who have been utility men in private life. These men are conducting schools at the various posts, and are rapidly training their men to take care of all utilities, including refrigeration. Men, experienced in such work, are conducting these schools. Many are civilians in government employ."

"In such a short time, it is impossible to more than touch on the gigantic task which is being undertaken and which is now in progress, covering the construction work going on at all the Army camps and posts throughout the country and which is being accomplished by the Construction Division of the Quartermaster Corps. Only a part of the refrigeration work, which is so vital a part of this Defense Program, has been covered—and refrigeration is only one of the items which this Division is handling."



VIRGINIA—a name that has earned respect



Jefferson's fame as a statesman and architect has obscured his ability as an inventor.

In the same way, the Virginia Smelting Company's pioneering in quality, purity and sound merchandising methods has always been supplemented by the development of methods and devices for the application of ESOTO that make the service engineer's job easier, simpler and more profitable.



EXTRA DRY ESOTO • Methylene Chloride • V-METH-L

VIRGINIA SMELTING CO.

Located at tidewater
WEST NORFOLK, VIRGINIA



RIGIDBILT

Serving first the armed forces of the United States and secondly those who process and sell perishable foods to the nation.

If Your Jobber Can't Supply You, Write Direct.

IF IT'S RIGIDBILT IT'S BETTER BUILT

MANUFACTURERS FIN COIL CO.

2505 SO. PULASKI RD.

CHICAGO

UNIT COOLERS

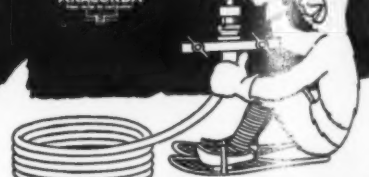
FIN COILS

MODULATORS

Anaconda Copper Refrigeration Tubes

No cracks or splits when flared against a block

ANACONDA



THE AMERICAN BRASS CO.

FRENCH SMALL TUB BRANCH
General Office: Webster, Conn.

Refrigerated Welding Units Accelerate Production on Aircraft Assemblies

Reduce Electrode Temperature to Increase Greatly Point Life and Weld Runs

DETROIT—A line of refrigerating units designed to increase productivity of resistance welding equipment in welding of aluminum and stainless steel has been announced by Progressive Welder Co.

Intended especially for use with the Progressive company's own welding machines, the refrigerating units have been made available for other makes of welding machines in view of their potential importance in defense industry through speeding and improving the welding of aircraft assemblies, etc.

Patents have been applied for on these refrigerating machines, which are believed to be the first refrigerated welding units to be made commercially available.

The new refrigerating unit makes possible continuous welding of four to 10 times as many spots in aluminum, without requiring point dressing, as is possible in using regular welding equipment, it is claimed.

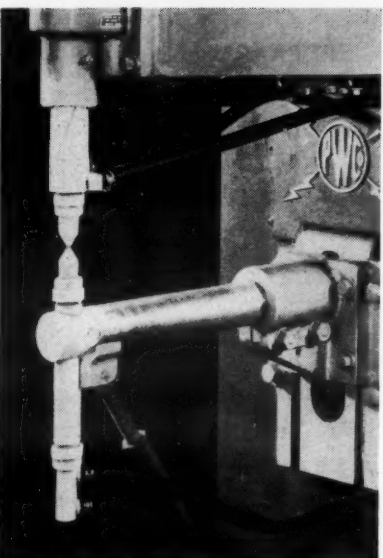
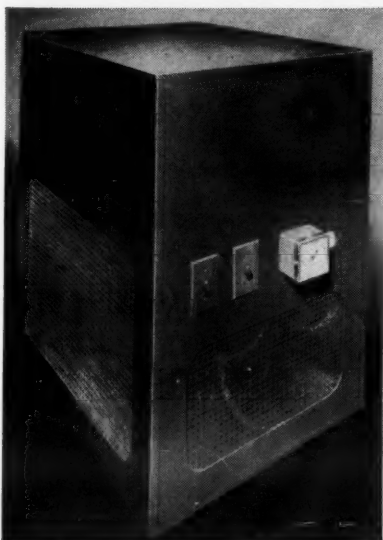
When used in combination with a spot welding machine, the unit reduces electrode temperature to a point where electrodes will be continuously covered with frost, despite the high heat necessary to produce a weld. This reduction in temperature has so increased point life that 10 minute continuous runs at 100 welds a minute—without point dressing—are not unusual, the company maintains.

Experimental production has indicated that pick-up, or the alloying of the tip with the material being welded, is completely eliminated when the refrigerating unit is used, the company reports.

The unit is claimed to be usable for welding other types of material besides aluminum and stainless, and may also be applied to the cooling of industrial coolants and cutting oils.

The new units are available in a range of three sizes, designed respectively for use with a single welder, two welders, and a bank of four such welding machines. The units are provided with automatic thermostatic control, all standard safety appliances, built-in dehydrator, heat exchanger, external indicating thermometer, and highest efficiency pump with variable pressure.

'Refrigerated' Welder



Refrigeration accelerates spot welding on aircraft assemblies. Above is the self-contained refrigerating unit, while below is shown frosted electrodes.

Installation of the refrigerating unit is quite simple. Being self-contained, it is necessary in most cases only to disconnect the waterlines to the electrodes and couple the refrigerator unit inlet and outlet connections to the water piping.

Frigidaire Host to Dayton ASRE

CINCINNATI—A tour of Frigidaire's Moraine City plant at Dayton, Ohio, and a meeting in the plant auditorium will feature the November session of the Cincinnati section of American Society of Refrigerating Engineers on Monday, Nov. 17.

Speakers at the meeting will include Charles R. Neeson, director of cooling research for Airtemp, who will discuss "Variable Capacity Radial Compressors," and J. R. Hornaday, of Frigidaire's air conditioning engineering department, who will outline "The Application of Diesel Drive to Railroad Coach Air Conditioning."

Special chartered buses will leave the Gibson hotel at 4:45 p.m. on Nov. 17, returning that night. Out-of-town members and guests will meet the Cincinnati contingent at the Moraine plant at 6:30 p.m. Tickets may be obtained by mail from Al Chadburn, Williams & Co., 1921 Dunlap St., Cincinnati.

Dairy Industry Given Permission For 'Moderate Expansion' of Production

WASHINGTON, D. C.—Because of the need for expanding dairy production to meet U. S. and British food requirements, the Supply Priorities and Allocations Board has announced that special attention will be given to the provision of equipment necessary for this expansion.

Expansion is needed chiefly in the production of evaporated and condensed milk, cheese, and dried milk. Presumably this would include milk cooling and other equipment employing refrigeration used in the processing of such products.

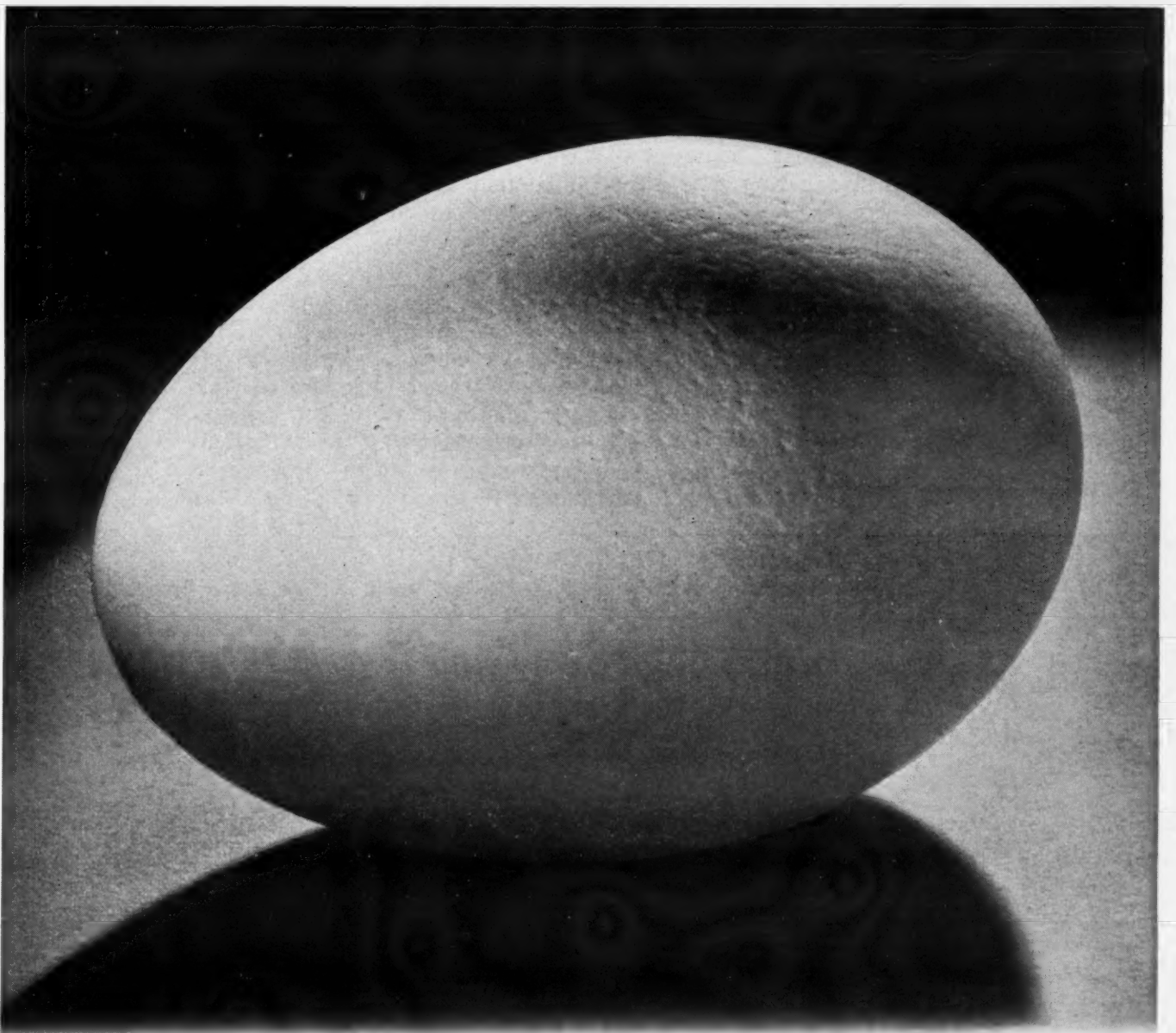
Executive Director Donald M. Nelson has been authorized to prepare a priorities plan, in cooperation with the Department of Agriculture, whereby materials needed for manufacture of equipment required for a "moderate expansion" of the dairy industry may be obtained.

Provision of these materials is to

be made contingent, however, upon adoption by the industry of methods for saving scarce materials through conservation, substitution, and the simplification of equipment.

Further consideration also will be given to other farm equipment, whose manufacture involves the use of various critical materials needed for defense. Mr. Nelson will work with the agricultural implement industry and the Department of Agriculture in determining the minimum needs, by general classifications, of manufactured items which agriculture must have to produce the required volume of foodstuffs.

Here also, it is hoped that savings can be made through conservation, substitution, and simplification; through repair of existing equipment where possible, and through a more efficient use of equipment now on hand.



Egg

America's hens lay an egg 39,000,000,000 times a year. Responsibility for the freshness of this composite egg sets squarely on the shoulders of the Refrigeration Industry. To the mess halls of the Army and the Navy, to the tables of our Civilian and Industrial defenders, daily moves the indispensable egg, a vital health food, protected by Refrigeration round the clock and through the calendar. Mills Condensing Units hold their honored positions as stalwarts of the Industry, serving, guarding, winning by their inherent excellence. Our pledge is to keep these friends of the egg and of all perishable foods available in the quantity and types required.

For: food defense is national defense! MILLS NOVELTY COMPANY • CHICAGO

Industry Engineers Make Recommendations For Army Cold Storage Plant Work

WASHINGTON, D. C.—Leading refrigeration engineers of seven companies spent 10 days here recently at the request of OPM examining plans and specifications for cold storage plants which the Army is building.

The meeting was called by the Air Conditioning and Refrigeration Section of the Equipment and Supplies Procurement Advisory Branch of OPM, headed by C. W. Shearman.

Specification 8000 E, Supplements E, F, and H, Addendum No. 1, and other facts pertaining to cold storage plants being installed by the Construction Quartermaster of the Army at various points were studied. The engineers reviewed the entire calculations, loads, new plants, etc.

Following their study the experts presented through Mr. Shearman a report and recommended specifications, complete in every detail, of piping layouts, controls, etc. for consideration of the engineering branch of the Army's Construction Quartermaster.

This report simplifies and clarifies the Army's specifications, and sets up a standard of procedure to be followed in every section of the United States.

The engineers making the study represented General Electric Co., Carrier Corp., Frick Co., York Ice Machinery Corp., Chrysler Airtemp, Vilter Mfg. Co., and Carbondale Division, Worthington Pump & Machinery Corp.

Water Cooler For Modern Railway Cars Has Extra Storage Capacity to Meet Peak Demands

EAST SPRINGFIELD, Mass.—Designed especially for modern railroad coach and Pullman cars, is a new remote-mounted water cooler announced recently by Westinghouse Electric & Mfg. Co.

Cooler capacity is from 3 to 4 gallons per hour depending on the range when inlet water is at 80° F. Storage capacity in the cooler allows water in excess of rating to be delivered for short peak demands. The refrigerating unit can be supported on cross members or suspended from the carlins, and may be connected to a spigot located conveniently by the car builder for the

particular car design encountered. Net weight is approximately 130 pounds, with overall dimensions 27½ inches long, 15½ inches high, and 23½ inches wide.

The unit is driven by a ½-hp. motor normally furnished for 32 or 64-volt operation on d-c circuits, although motors operating on other voltages can be supplied. When 110 volts, 60 cycle, single phase current is available, the cooler assembly will be furnished with a ½-hp. hermetic unit. The condensing unit is rubber-mounted to an angle iron base that also carries the water cooler and temperature control.

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NOVEMBER 19, 1941

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**Refrigeration Is Essential
To America's Health
And Efficiency**

Subcommittee No. 4 & Henry Dinegar Do a Job

BLANKET rating of A-3 to permit adequate allocation of materials for "essential" uses of refrigeration and air conditioning has been proposed to the OPM by Subcommittee No. 4 (Priorities, Ratings, and Allocations) of the 64-man group appointed last September to represent the air conditioning and refrigeration industry.

The NEWS believes that this subcommittee, and the OPM official they have been working with, Henry Dinegar, have done a great job for commercial refrigeration and air conditioning, and for the public which requires the services of these products.

HATS OFF TO THE COMMITTEE MEMBERS

Before reviewing that job, perhaps we'd better pause to doff our hats to the members of that subcommittee. They are: James A. Bentley, Bill Allen, Frank Faust, C. V. Hill, Jr., Mel Knight, L. C. Love, P. A. McKittrick, R. H. Pearce, and Art Schellenberg.

Most of these men are familiar to readers of the NEWS through their work in connection with industry cooperative activities, as well as through the work they do for their own particular manufacturing organizations. One is not surprised to note how well they have labored together.

Complete text of this Subcommittee's report appears in the Nov. 5 issue of AIR CONDITIONING & REFRIGERATION NEWS. We presume all subscribers have given it careful study. It may give many clues to the future. It also contains statistical information of a most interesting character.

The report endeavors to classify refrigeration and air conditioning

applications into "essential civilian uses," "less essential civilian uses," and "non-essential uses."

Strange as it may seem, we have as yet heard no arguments on the classification presented by Subcommittee No. 4, despite the fact that a good many people will undoubtedly get hurt if the recommended program is carried through.

UNSELFISH ANALYSIS DEMONSTRATED IN REPORT

As a matter of fact, some of the committee members themselves will suffer from such classification. That they were courageous enough to make it indicates how actively the committee is cooperating with the OPM in an effort to advance the rearmament program without jeopardizing the nation's health.

The subcommittee also suggests that the industry undertake the responsibility of closely supervising and of policing the uses of materials allocated to it, in conformity with the law.

Also, by affidavit, the industry could guarantee that materials obtained by OPM allocation would be applied only to the authorized uses.

"Because of the great variation of equipment and types of applications covered by our industry, any curtailment formula for our industry would, at best, be extremely complicated and probably impracticable," the report states. "We believe that the suggested program would obviate the need for a curtailment program."

TASK AHEAD IS ENORMOUSLY COMPLICATED

"What we need more than anything else," the report concludes, "is a tangible program which will enable us to keep our skilled personnel together, and allow us to produce equipment for essential civilian and defense requirements."

And that's right. Preparation of such a "tangible program," however, may well be an enormously complicated task. And that's where Henry Dinegar enters.

When the Air Conditioning & Refrigeration Advisory Committee to the OPM was formed, it was selected by C. W. Shearman. This gentleman made an excellent impression on the committee. He apparently understood something about the business, and he seemed ready to go to bat for the industry. His sincerity and earnestness were noted and approved.

Time passed, and nothing happened. Then, the industry learned, Mr. Shearman had been transferred to an important job in the OPM's Division of Purchases. New chairman of the committee would be Henry Dinegar.

NEW CHIEF HAS VALUABLE BACKGROUND

Committee members were frankly dubious. They had had one good man; what would the new one be like?

In fairly short order Henry Dinegar dispelled all doubts. To be true, he was a very young man for so important a post. But he caught on fast. And it soon developed that he had had experience in the industry. He had for some years been with an important household refrigerator distributor. Later he had gone with a big air conditioning manufacturer, and had been sent abroad on many difficult

They'll Do It Every Time By Jimmy Hatlo



pioneering tasks. He was a salesman as well as an engineer.

This is a most complex industry, and Mr. Dinegar has taken quite a buffeting from various competing associations and factions. But he has taken it all in good humor, and has come out of every encounter with more knowledge about the subject.

Before long, if not already, Henry Dinegar is going to know a tremendous lot about air conditioning, refrigeration, and some of the other "consumers durable goods" lines delegated to his administration by the OPM.

REACTIONS FAVORABLE TO MR. DINEGAR

Almost without exception the members of the Advisory Committee which Mr. Dinegar inherited have reported favorably on their dealings with him. He has tact as well as talent.

This does not mean that everything is going to be rosy for the air conditioning and refrigeration industry. There are rocky times ahead, as we have pointed out over and over again. The industry must continue to press for recognition of its essentiality.

At this moment refrigeration supply jobbers, members of TECORD, are circulating petitions requesting substantially the same sort of recognition as that recommended by the able Subcommittee No. 4. This is valuable work, and should be recognized as such by everyone in the industry.

MEASURE OF UNITY APPEARS IN SIGHT

The most encouraging thing about it all is that a measure of unity appears to be in sight, in contrast to the seemingly hopeless confusion of last summer.

A few months ago not only did the OPM seem to be kicking us around, but the industry itself was divided, engaging in occasional cat-and-dog fights, and everyone was muddling around rather helplessly.

Now one can begin to see the outlines of the future. Much hard work is ahead. The industry's various factions must come even closer together. They must work even more closely with the OPM. And the latter, one sees reason to hope, may get on top of one of the most difficult and complicated jobs ever offered to a group of men in the nation's history.

LETTERS

AIR CONDITIONING A HOME

Baker Hotel
West Tulsa, Okla.

Editor:

I am seeking information of how to build, or to find out how to purchase materials or equipment for air conditioning my five-room home and install a very large refrigerating set in my basement for storage (quick freezing system) of fruits, vegetables, and all kinds of fresh meats, etc., sufficiently large for a family of 10 people.

My basement is very large and can accommodate a large unit.

I have a.c. current at either 110 or 220 volts, 60 cycles, and spring water in my automatic water system of 500 gallons per hour.

Please advise by return mail what you can do to assist me in this, and send me what you think is the best information you can supply.

PHILLIP W. GOOCH

Note: This home is situated in south Alabama where climate is humid and very wet at times, when long rainy seasons come. Therefore, I can employ none of "water evaporating" systems. Will have to resort to DRY air system, or mildew will spoil everything in rainy seasons.

INTELLIGENT VIEWPOINT FOR OTHER REPUBLICS

American Association of Advertising Agencies
Export Information Bureau, Inc.
420 Lexington Ave., New York
420 Lexington Ave.
New York, N. Y.

Dear Mr. Adams:

Thank you for your recent letter and the copy of the Spanish edition of the 1941 Refrigeration & Air Conditioning Directory and the copy of "Refrigeration Domestica" which you sent me.

I think both of these are well worthwhile in the refrigeration and air conditioning industry. No doubt they will serve a very useful purpose in Latin America.

We are glad to know about them, of course, but they are in a highly technical field and there is consequently very little opportunity for us to tie up with them in any way. The effort, I think, represents a very intelligent viewpoint with regard to the other American republics.

RUSSELL PIERCE,
Director of Advertising

SAILS TO NAVAL BASE

308 N. Pinckney St.
Madison, Wis.

Editor:

I have the pleasure of informing you that through the article you published for me in the columns of your paper during the summer of 1940 and the advertising I have carried out in the want ads section I have succeeded indirectly in obtaining a position as Assistant Refrigeration Engineer with the U. S. Naval Operating Base at Guantanamo Bay, Cuba.

I intend to leave Madison for my new destination sometime next week and I would be very pleased if you would make mention of this in your NEWS.

EDWARD R. HARRIS

Quartermaster Corps To Award Work On Regional Basis Regardless of Price

Plans Made To Spread Contracts Geographically

WASHINGTON, D. C.—To spread as widely as possible future national defense orders the Quartermaster Corps of the Army will henceforth award contracts on a regional basis with prices being considered a secondary factor, the War Department announces.

The maximum quantities awarded to any bidder will be limited and awards made to as many regions, and to as many suppliers in each region, as is possible and practicable.

Within reasonable limits, depending upon circumstances surrounding individual procurement orders, bid prices will not always govern the award of contracts. Direct negotiations will be made with bidders in a particular region where it is desired to make awards when the bid prices are considered too high. Every reasonable effort will be made to induce such bidders to accept a stated quantity at what is considered a fair price to them, states the War Department.

Orders will also be rotated among responsible bidders to permit widespread distribution of awards.

Bids offering earlier deliveries will be given favorable attention if earlier deliveries are required, but otherwise won't receive special attention.

As a further aid to small firms, the Army will give sample orders to permit producers to learn, without assuming undue financial commitments, if their equipment and

personnel can handle the work. In addition, sample rooms will be set up in Quartermaster Depots throughout the country where prospective bidders can see detailed drawings and patterns and obtain information and assistance in filling out necessary forms.

Basis for regional distribution of awards will be the nine Quartermaster procurement districts located as follows:

District 1—Boston, covering Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont.

District 2—New York City—Connecticut, New Jersey, and New York.

District 3—Philadelphia—Delaware, Maryland, Pennsylvania, and Virginia.

District 4—Atlanta—Alabama, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, and Tennessee.

District 5—Jeffersonville, Ind.—Indiana, Kentucky, Ohio, and West Virginia.

District 6—Chicago—Michigan, Illinois, Wisconsin.

District 7—St. Louis—Arkansas, Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, and South Dakota.

District 8—San Antonio, Tex.—Arizona, Colorado, New Mexico, Oklahoma, and Texas.

District 9—San Francisco—California, Idaho, Montana, Nevada, Oregon, Utah, Washington, and Wyoming.

OPM Prepares Plans For Enforcement Of Priorities

WASHINGTON, D. C.—Nation-wide surveys designed to obtain factual data which will be useful in enforcing priorities orders and regulations are being undertaken by the Compliance and Field Service section of the Priorities Division, with the cooperation of some 200 field offices which other government agencies are making available.

Field representatives of the Department of Labor (wage-hour division), Commerce Department (bureau of the census), Treasury Department (procurement division), and Federal Trade Commission (chief examiners division) will all be used.

Representatives of these agencies will visit plants of both defense and non-defense manufacturers to check on how priorities regulations are being complied with. Any enforcement activities growing out of the survey will be handled directly by the Division of Priorities.

One of the first jobs will be a check-up among plants using critical materials, in which there are now serious shortages. Information in the hands of the Priorities Division indicates that a number of violations have occurred. In some cases, it is indicated that certain manufacturers have used preference ratings to obtain critical materials which were subsequently used for non-defense purposes. In other cases, preference ratings have been used to buy materials for stock piling, in violation of priorities regulations which forbid the building of excess inventories.

Number of wilful violators, it is believed, is relatively small. Because of the critical shortages which exist, however, such violations may make it difficult for a defense manufacturer to obtain a sufficient quantity of material for defense production.

Heavy Duty Machine Used In 'Blackout' Plants

HARRISON, N. J.—The new line of heavy-duty centrifugal compressors for air conditioning and industrial process requirements introduced this year by Worthington Pump & Machinery Corp. is finding extensive use in air conditioning "black-out" and controlled temperature plants manufacturing planes and aircraft engines.

Volute design rather than diffuser design is incorporated in this new line, which ranges in capacity from 150 to 1,200 tons. Other features include dual lubrication, and the balancing of end thrust and side thrust by arrangement of impellers and volutes.

These new compressors have been installed in Packard Motor Car Co.'s aircraft engine plant, Allison Engine Co., Dallas and Kansas City plants of North American Aviation Corp., and the Fort Worth plant of Consolidated Aircraft Corp.

M-H Adds To Plant For Defense Orders

MINNEAPOLIS — Making its fourth addition in five years, Minneapolis-Honeywell Regulator Co. is building a new section on its plant here. The structure, which will rise four stories above the north wing just completed last year, will add 65,000 sq. ft. of floor space.

The addition was made necessary by recent defense orders, explained C. B. Sweatt, vice president.

Rogers & Hughes Hardware Adds S-W Appliances

BISHOPVILLE, S. C.—Rogers & Hughes Hardware here has just taken on the Stewart-Warner appliance line.

There Is No Substitute For Experience

BEWARE OF THE "6th COLUMN"!

THESE are critical times for America.

Every ounce of manpower . . . every scrap of natural resources . . . must be carefully conserved for the nation's defense effort.

The "sixth column" is WASTE!

The loss of valuable time through incompetence . . . the wasting of vital materials through inefficiency . . . can do as much damage to national welfare as spies and saboteurs.

America's biggest industry—in peace or war—is food. It's bigger than the building industry . . . bigger than the automobile industry . . . bigger than the steel industry.

Because it is America's biggest industry, one of the greatest potential sources of waste is the spoilage of perishable foods. Food spoilage alone

can steal more from the national budget than strikes, fires and floods.

A main bulwark against food waste is Servel Electric Refrigeration. Servel guards the wholesome freshness of meats and milk, fruits and vegetables as they move from producer to distributor to consumer. Servel preserves the vitamins and minerals so necessary to national health.

Direct defense, of course, has first call on Servel's services.

But Servel still appreciates its responsibility for serving national interests by providing dependable, efficient refrigeration for perishable foodstuffs—the lifeblood of the nation.

For further information, write today to Servel, Inc., Electric Refrigeration and Air Conditioning Division, Evansville, Indiana.

OVER 80 STANDARD MODELS—
AIR-COOLED AND WATER-COOLED
1/2 H.P. TO 20 H.P.



SERVEL
COMMERCIAL REFRIGERATION
and
AIR CONDITIONING

New Form Offered To Ease 'Copper Hardship'

WASHINGTON, D. C.—To ease some of the hardships caused by copper restrictions, particularly those of half-completed construction projects which would result in sudden and harmful dislocations of employment and freezing of inventories which are in process, Priorities Director Donald M. Nelson has announced a special appeal form for manufacturers whose operations come under the special hardship clause of Copper Order M-9-c.

The new form, PD-167, can be obtained from any Priorities Division field office or by writing to the Priorities Division headquarters here. Any appeal made must be filed on this form and mailed to the Director of Priorities, Reference M-9-c.

Mr. Nelson emphasized, in announcing the new form, that (1) no appeal will be considered unless it

is made on the form provided, and (2) the form should be used only in cases of especially serious hardship.

It is believed that the form is intended to provide a way out in the construction, even for non-defense purposes, of projects that are half completed.

Experts Study Fedders Gun Clip Production

BUFFALO — Representatives of nine manufacturers producing links for machine guns and clips for Garand rifles and Army officers recently visited the Tonawanda Street plant of Fedders Mfg. Co. to study production methods.

Vice president Theodore C. Fedders, general manager of the Fedders plant, and Edmund E. Walker, assistant general manager, conducted the group on a tour of the factory, which is producing machine gun links for the British.

Booklet Has Information On Priorities, Export

NEW YORK CITY—Two defense handbooks, one summarizing all price and priority regulations to date and the other listing every product subject to export control, have recently been published by the N. Y. Journal of Commerce.

All government and voluntary price controls and priorities are brought up to date in the Price and Priority Digest. In addition to giving the status of nearly 200 commodities and commodity groups, prospects for civilian allotments are also reviewed for quick reference.

The new edition of the Export Control List embraces 32 pages of product listings. Both supplements have been published in tabloid form, and are obtainable at 10 cents each from The N. Y. Journal of Commerce, 63 Park Row, New York City.

THE RECORD PROVES IT

COAST-TO-COAST Distribution

Artic *The Preferred METHYL CHLORIDE for Service Work*

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For information about nearest source of supply, write to: **THE R. & H. CHEMICALS DEPARTMENT • E. I. DU PONT DE NEMOURS & CO. (INC.)** Wilmington, Del.

or **NATIONAL AMMONIA DIVISION** Frankford, P. O. Philadelphia, Pa.

Theory & Construction Principles of Polyphase Electric Motors Explained In This Instalment

Polyphase Motors

Editor's Note: This is the fifth instalment, and the second section, in a series of articles on electric motors written for the refrigeration and air conditioning service man. It is the aim of the author to give in simple terms a description of direct current, polyphase, and single-phase motors, and then discuss installation, maintenance, and servicing problems.

By R. A. Fuller,
Industrial Engineering Dept.,
General Electric Co.

Fundamentals

Alternating current motors of two, three, or more phases are known as polyphase motors. The most common are, of course, the three phase motors.

Fig. 14 represents three stationary coils connected to a three phase power supply. Three phase power is such that current flows strongly in line 1 first, then in line 2, then line 3, and then in line 1 again. Thus coil 1 becomes magnetically strong first, then coil 2, then coil 3, then coil 1 again, and so on.

This operation can be represented by a permanent magnet which is placed on coil 1, when that is strong, then on coil 2, then on coil 3, then on coil 1 again, and so on. It will be observed that this magnet is rotating about the central point of the diagram and it is from this that the expression "rotating field" is obtained.

The most commonly used three phase motor is the squirrel cage induction design. This has a squirrel cage rotor as shown in Fig. 15. It consists of a number of metal bars connected at each end to metal rings.

In Fig. 16 the rotating field is represented by magnet A. Rotation of magnet A, past the rotor bars,

Fig. 22—Stator Winding of Polyphase Motor

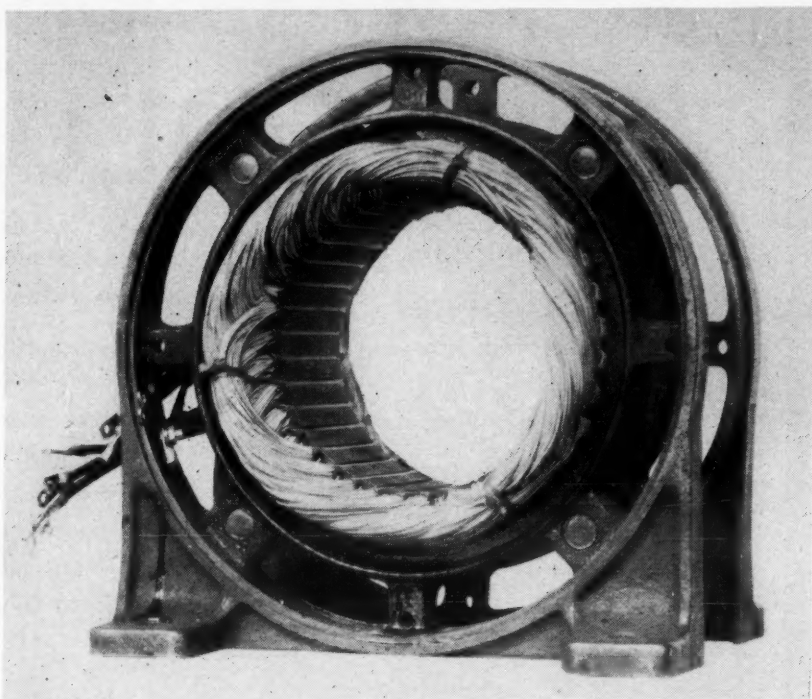


Fig. 22 shows an actual stator winding of a polyphase motor.

develops current in the bars. This current causes magnetism in the squirrel cage "winding" such that it follows magnet A. As magnet A must pass by the rotor bars in order to generate the rotor current the squirrel cage rotates slower than magnet A. This difference in speed of rotation is known as the slip.

Stators

The stator, or stationary part, of a three phase motor may be represented as shown in Fig. 17. The windings for poles B and C, being similar to those on poles A, have been omitted from the diagram for simplicity. When the current is strong in windings A, the path of the magnetism is as shown by the dotted lines. An instant later the current decreases in windings A and becomes strong in windings B. The path of the magnetism is then through poles B. Still later the path

of the magnetism is through poles C. The connections for the stator winding may be Wye (Y), as shown in Fig. 18, or Delta (Δ) as shown in Fig. 19.

In Fig. 17 upper pole A, as an example, is shown with a single concentrated winding. In actual practice the winding is broken up into a number of smaller coils which are inserted in slots as shown in Fig. 20. In this diagram the two sides of each coil are indicated by the same number. The winding for one pole overlaps that for the next one somewhat, thus giving pole locations as shown in Fig. 21.

Stator windings are rather complicated and this presentation of them should be regarded as covering simply a few of the principles of construction. An actual stator winding is shown in Fig. 22.

Fig. 17 represents a two pole three phase motor. In other words, for each phase it has two poles.

These Diagrams Help Explain Construction and Operation of Polyphase Electric Motors

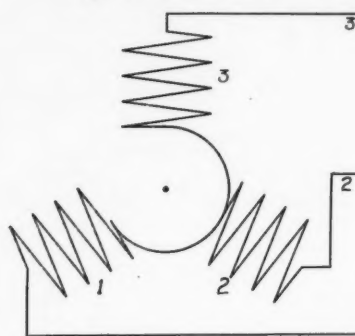


Fig. 14—Three stationary coils above, connected to a three phase alternating current supply, are energized in successive numerical order by the fluctuations of the current.

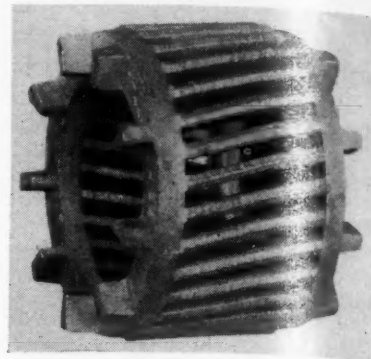


Fig. 15—The shape of the above rotor explains the name of the most commonly used three phase induction motor—'squirrel cage.'

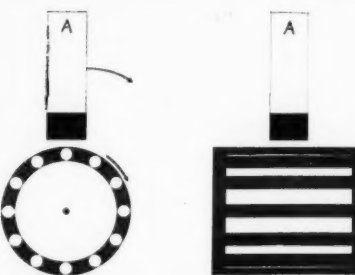


Fig. 16 diagrams the principle of the squirrel cage motor. As permanent magnet A revolves it creates magnetism in the rotor bars, causing the rotor to follow the magnet.

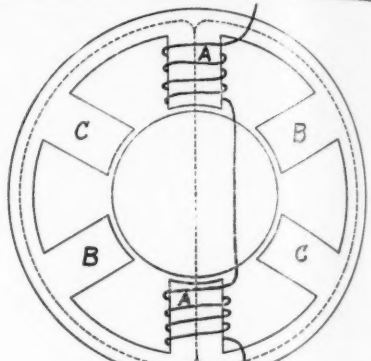


Fig. 17 represents windings of the stator, or stationary part, of a three phase motor.

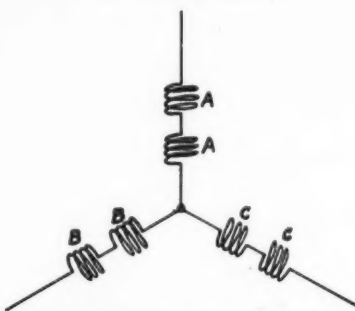


Fig. 18 shows the Wye method of making connections for the stator winding.

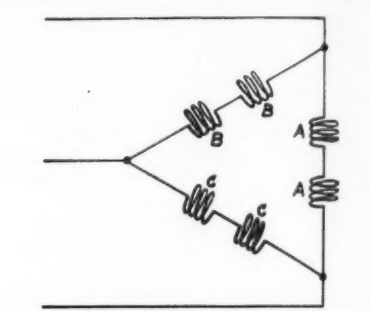


Fig. 19—Delta method of making connections for the stator winding is diagrammed above.

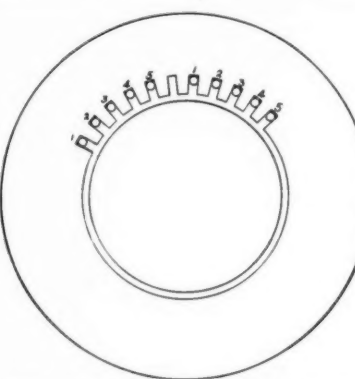


Fig. 20—In actual practice the stator winding is broken up into smaller coils and inserted in slots as shown here.

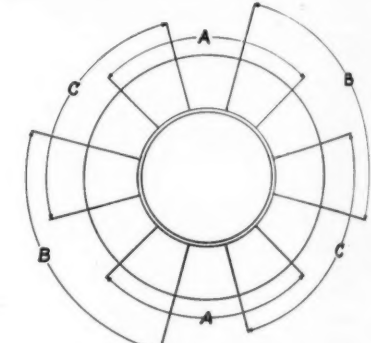


Fig. 21—Winding for one pole of a stator overlaps that of the next pole somewhat, as diagrammed above.

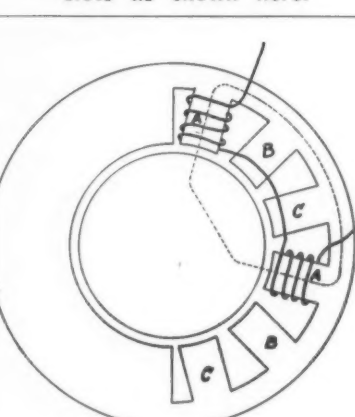


Fig. 23—By arranging the poles as shown here the r.p.m. of the rotating field is halved.

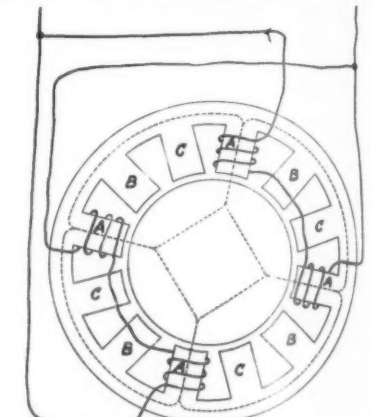


Fig. 24 shows a complete diagram of the stator pole arrangement. Paths of magnetism are represented by dotted lines.

Assuming that 60 cycle power is used the rotating field makes one revolution in one-sixtieth of a second, 60 revolutions per second or 3,600 revolutions per minute. If the poles of Fig. 17 are rearranged as shown in Fig. 23 the rotating field, represented by the dotted line, makes only half a revolution in one-sixtieth of a second.

To complete the stator pole arrangement for such a motor a duplicate set of poles is added as shown in Fig. 24. The paths of the magnetism are as shown in dotted lines. There are now four poles per phase and this is therefore called a four pole motor. The speed of the rotating field is now 30 revolutions (Concluded on Page 11, Column 1)

Table 1—Rotating Field R.P.M. for Various Motors

	Poles Per Phase				
	2	4	6	8	10
	RPM	RPM	RPM	RPM	RPM
60 Cycle Motor	3,600	1,800	1,200	900	720
50 Cycle Motor	3,000	1,500	1,000	750	600
40 Cycle Motor	2,400	1,200	800	600	480
25 Cycle Motor	1,500	750	500	375	300

REFRIGERATION COPPER TUBING

- 1 BRIGHT AS GOLD SMOOTH AS GLASS INSIDE AND OUTSIDE
- 2 JUST RIGHT FOR EASY BENDING AND FLARING
- 3 ENDS SEALED COILS WRAPPED
- 4 ALL SIZES FROM 1/8" TO 3/4"
- 5 IN EXACT 25, 50 OR 100 FT. COILS PLAIN OR ELECTRO TINNED

PENN BRASS & COPPER COMPANY, INC.
POWELL AVE., ERIE, PENNA.

THE WATCHDOG OF THE NATION'S FOOD SUPPLY

Mechanical Refrigeration

use

REFRIGERATION PRODUCTS

Patented CROSS-FIN-COILS—
Bare Tube Coils—
Humi-Temp Forced Convection Units
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Heat Exchangers—
Instantaneous Water Coolers—
Evaporative Condensers—

See Your Jobber Now - - Or Write Direct

LARKIN COILS, INC.
519 MEMORIAL DR., S. E. • ATLANTA, GA.
Originators of The Cross Fin Coil

Fig. 25—Rotor For Squirrel Cage Motor

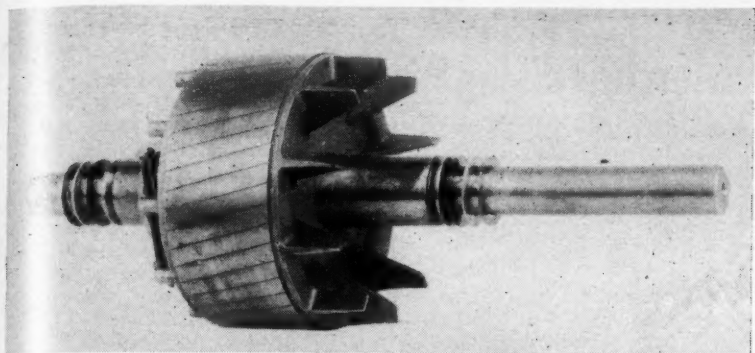


Fig. 25 shows the complete squirrel cage rotor. Compare with the rotor winding shown in Fig. 15 with the iron removed.

Principles of Polyphase Motors Explained

(Concluded from Page 10, Column 5) per second or 1,800 revolutions per minute. Thus it is evident that the speed of the rotating field is determined by the number of poles.

Table 1 at bottom of page 10 gives the rotating field r.p.m. for various motors.

Induction Motor Rotor

The winding of the rotor, or rotating part, of an induction motor is imbedded in iron to increase its effectiveness. As the magnetism in alternating current motor is continually varying in strength, the iron in all magnetic parts of these motors is usually laminated to avoid eddy currents.

A squirrel cage rotor winding, with the iron removed, is shown in Fig. 15. A complete rotor of this design is shown in Fig. 25. Due to the slip, necessary to produce current in the rotor winding, the speed of an induction motor is somewhat less than the speed of its rotating field.

To obtain special characteristics, such as extremely low starting current, the induction motor rotor winding is sometimes wound with wire in a manner quite similar to the stator winding. The three terminals of the rotor winding are connected to three slip rings as shown in Fig. 26.

The brushes are connected together through variable resistances which are adjusted for the desired operation. The brushes are often short circuited together after the motor gets up to full speed. Wound rotor induction motors operate on the same principles as the squirrel cage induction type.

Synchronous Motors

A synchronous motor is one in which the rotor keeps exactly the same speed of rotation as the rotating field. The rotor consists of a coil energized by direct current which,

Fig. 27—Principles of Synchronous Motor

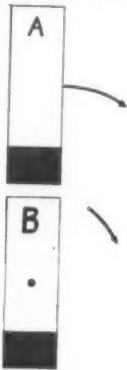


Fig. 27 explains the principle of the synchronous motor. Permanent magnet B, which is pivoted, is magnetically locked with permanent magnet A, so when the latter rotates B moves also.

from the discussion of Figs. 1 and 2, can be represented by a permanent magnet.

Fig. 27 shows such a magnet B, pivoted at its center, with another permanent magnet A representing the rotating field. Rotation of A causes B to rotate and the two magnets turn together—locked together magnetically. Such a motor has low starting ability and is usually made so that it can be started as an induction motor.

The rotor of a synchronous motor has the same number of poles as there are poles per phase in the stator. Fig. 28 shows a rotor for a four pole motor including the slip rings through which direct current is supplied to the rotor windings. This direct current is often obtained

Fig. 28—Four Pole Motor

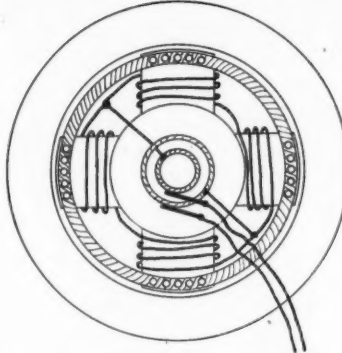


Fig. 28 represents a rotor for a four pole motor including slip rings through which direct current is supplied to the rotor windings.

from a generator mounted on the same shaft as the motor and used only for this purpose. The squirrel cage winding is added to the rotor, as shown, to obtain increased starting torque and to prevent hunting, or oscillating, of the rotor under running conditions.

As a general thing synchronous motors are used only in large sizes where considerable reductions in the electric power rates are obtainable due to the high power factor of this type of motor.

Two Phase Motors

A two phase motor is essentially the same, in principle, as a three phase motor. It may be represented by omitting coil 3 from Fig. 14. The descriptions of the synchronous and induction motor operation are then as given above. The number of poles per phase, in the stator, determines the speed of the rotating field which is the same as in a three phase motor.

Refrigeration Equipment Joins Jobber Group

CHICAGO—Refrigeration Equipment Co., 101 East 24th St., Kansas City, Mo., has become a member of National Refrigeration Supply Jobbers Association.

E. L. Tramposh, owner of the company, also is president of the Midwest Refrigeration Supply Jobbers Association.

Fig. 26—How Rotor Windings Pick Up Current

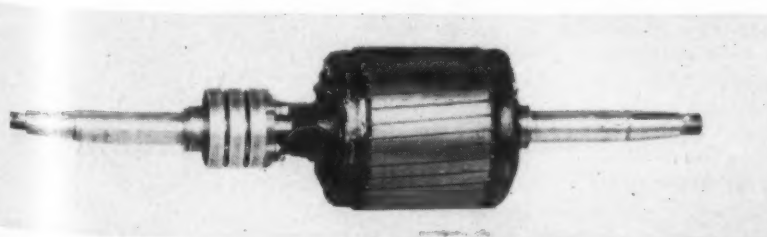


Fig. 26—The three terminals of the rotor winding are connected to the three slip rings at the left in the above photo.

General Electric, Philco & Carrier Win Prizes in Annual Plastics Competition

NEW YORK CITY—Three winners in the Sixth Annual Modern Plastics Competition represented the refrigeration and air conditioning industry.

Top award in the major household appliance classification went to Philco Corp. for its injection-molded refrigerator evaporator frame and door handle.

The Carrier humidifier won top award in the major household appliance application of the competition.

An industrial prize winner was the fan blade for cooling towers manufactured by General Electric Co. for Foster Wheeler Corp., Carteret, N. J.

The Philco evaporator frame was molded by Standard Products Co., St. Clair, Mich., of "Lustron Monsanto Polystyrene." This frame, over which are mounted die-cast doors with plate glass inserts, is the largest one-piece injection molding ever made in production in the United States. Door handle of the Philco refrigerator was molded by Firestone Rubber & Latex Co. from Monsanto "Lustron" and Tennessee-Eastman "Tenite." It was designed by the Philco-Stanley Works.

A plastic fan and grille are incorporated in the Carrier humidifier which was designed by Lurelle Guild. Materials used include Bakelite shock-resistant phenolic molding material and "Woodite" made by Syracuse Ornamental Co. A plastic resin binds the genuine walnut veneer finish to a plywood casing.

Plastics were used for their own inherent value, rather than as sub-

stitutes, in the cooling tower fan blade produced for Foster Wheeler Corp. by G-E. Mold for the blade is the longest ever built by General Electric. The blades consist of a laminated structure molded to form in a regular steel mold. They are made from an impregnated wood and a resin, and are unaffected by salt water.

M-H 3rd Quarter Net Nears Million

MINNEAPOLIS—Minneapolis-Honeywell Regulator Co. and domestic and Canadian subsidiaries reports a net profit for the September quarter of \$917,982, after \$579,015 provision for Federal income and capital stock taxes and \$405,000 for excess profits taxes. Profit is equal, after preferred dividends, to \$1.42 each on 621,900 no-par common shares. In September, 1940, quarter net was \$964,440 after \$410,879 for Federal income and capital stock taxes but before excess profits taxes.

Nine-month net was \$2,022,260 after \$1,303,206 provision for Federal income and capital stock taxes and \$881,079 for excess profits taxes. This is equal to \$3.10 a common share. For the 1940 period the company netted \$1,568,361 after \$626,761 provision for Federal income and capital stock taxes, but before excess profits taxes.

Cooling Aids Removal Of Dangerous Gas

SULPHUR SPRINGS, Tex.—Four hundred pounds of ice banked on a damaged tank containing 135 gallons of highly explosive petroleum gas resolved a dangerous situation here when it liquified the gas and permitted its safe removal.

During a cloudburst shortly after the tank had been placed in the ground, the tank was literally thrown from its bed. It struck a concrete pier and severely damaged its head.

Dips and hollows in the adjacent topography made it dangerous to allow the gas to escape, because a carelessly tossed match could result in serious consequences.

After two days of working on the problem, Sid Henderson of D. Lester Smith Hardware Co. here, who had charge of the installation, hit upon refrigeration to solve the difficulty.

In one hour the ice, covered by a tarpaulin, liquified the gas sufficiently to permit its removal without danger of explosion.

Although the tank had been leaking for two days, 85 gallons of the gas were saved. With 600 pounds of ice immediately, Mr. Henderson believes that he could have saved it all.

Gulf Supply Co. Moves Near 'Refrigeration Row'

DALLAS, Tex.—Removal of Gulf Supply Co., refrigeration supplies jobber, from original quarters at 1800 Young St. to 311 South Pearl St., near Dallas' "refrigeration row," has been announced by J. R. Sparkman.

To Meet ALL Your Refrigeration Needs

The CURTIS Line

Includes 93 Condensing Units—

1/6 to 30 Tons Capacity

Whatever your requirements, whatever your markets in the field of commercial refrigeration, you can meet practically every need with the complete Curtis line of quality-built condensing units.

Curtis offers 45 air-cooled condensing units from 1/6 to 5 H. P. in air-cooled types, and 48 water-cooled units from 1/3 to 30 H. P. capacity. Curtis saturated air condensers are also available for installations where water conservation is an important factor.

Curtis provides these advanced design engineering advantages:

- Centro-Ring Positive Pressure Lubrication
- Timken Tapered Roller Bearings (models above 3/4 H.P.)
- Removable Cylinder Heads
- Drop Forged, Alloy Steel Heat Treated Crankshafts and Rods
- Balanced Sylphon Bellows Seal
- Exceptionally Large Condensers and Receivers

Throughout the industry, Curtis products have a remarkable record for dependable, trouble-free economical performance—the result of long experience, precision manufacture and advanced features of engineering and design. Every Curtis condensing unit is backed by Curtis' record of 87 years of successful manufacturing experience.

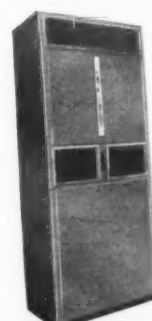
Whether you sell, buy or specify commercial refrigeration equipment, it will pay you to write for full information on the complete Curtis "Extra Value" line.

CURTIS REFRIGERATING MACHINE DIVISION
of Curtis Manufacturing Company

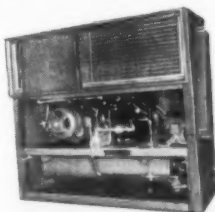
1912 Kienlen Avenue

St. Louis, Missouri

Packaged Air Conditioners



In addition to condensing units for every type of application, Curtis offers Packaged Type Air Conditioners in 5 sizes: 3, 5, 7½, 10 and 15 tons capacity.



CURTIS
REFRIGERATION
AIR CONDITIONING
... COMMERCIAL



... With the Aid of Mirrors

Interior of the Hot 'N' Kold Shop, Detroit appliance dealership operated by R. B. Whitehurst, is cleverly designed so that the store looks just about twice as long as it really is. The partition at the rear of the store which divides the showroom from the offices is composed entirely of mirrors. As a result, the lines of appliances on each side of the showroom are reflected in this partition and seem to extend practically into infinity. Actually, however, the showroom ends just beyond the group of three people standing at the left. A flag hangs limply above the wainscoting at the juncture of the left side wall and the mirrored partition.

Rayons Safe In Washers, McCall's Tests Reveal

NEW YORK CITY—Because of the curtailment of the silk supply, Kathleen Robertson, home appliance director for "McCall's Magazine," has conducted washing machine tests with rayons and rayon-woolens and found the washing machines are perfectly safe and much quicker.

U. S. GOVERNMENT Specification

Filtrine

Cafeteria Coolers
Filtrine Mfg. Co., Brooklyn

ANSUL RESEARCH

is the clue to Ansul Quality. Back of your satisfaction with Ansul products... back of our 25 years of helpful service to the industry stand the men in the Ansul Research Laboratories... making sure, day after day that Ansul quality never varies, that Ansul gases are what they say they are... Clean, Pure, Dry

ANSUL CHEMICAL COMPANY
MARINETTE • WISCONSIN
AC-39

ANSUL
SULPHUR DIOXIDE
ICE-X
METHYL CHLORIDE
Agents for Kinetic's "Freon-12"

THERE IS AN ANSUL JOBBY NEAR YOU

Pocket Estimator Shows Operating Costs of Home Appliances

BRIDGEPORT, Conn.—A handy pocket estimator for figuring the monthly operating costs of electrical appliances for the home and of farm equipment has been prepared by the farm sales section of the General Electric appliance and merchandise department.

Designed primarily as a sales tool, the estimator is also expected to prove a handy reference for farm owners planning the extended use of electrical helpers. It gives at a glance the average operating cost of appliances or farm equipment at varying kilowatt-hour rates. The data, based on General Electric products, was prepared by the G-E consumer research division.

Small enough to slip easily into a wallet, the estimator consists of a plastic envelope and a pull-out card. Various appliances and types of equipment are listed alphabetically on the inside card. Names of the products and their corresponding operating costs show through a window slot in the envelope. Costs are listed in different columns to take care of kilowatt-hour rates varying from 1½ to 6 cents.

Additional information printed on the envelope gives estimated usage and kilowatt-hours per month for each product.

Cash in WITH SANIDAIRE

PORTABLE HUMIDIFIER for Home and Office

SELF-CONTAINED NO WIRING—NO PLUMBING

Defense AGAINST WINTER COLDS and WASTED FUEL

Sanidair washes, cleans, filters and circulates humidified air. Entirely self-contained. Compact, attractive cabinet is no larger than a table radio. No installation or service problems. No wiring—plugs in anywhere. No water or drain connections.

A trial demonstration rarely fails to make a sale—particularly now when health protection and fuel conservation are so vital to defense. Sanidair still sells at last year's low price, offers the same good margin of profit. With the heating season now on, you can cash in on this winter profit-maker right away.

WRITE FOR COMPLETE DETAILS IMMEDIATE DELIVERIES!

United States Air Conditioning Corp.
Northwestern Terminal
Minneapolis, Minnesota
Send complete details and prices on Sanidair.

Name _____
Address _____
Town _____ State _____

us AIRCO

Do You Know These Fundamentals of Appliance Advertising & Merchandising?

Just published by Business News Publishing Co. (publisher of Air Conditioning & Refrigeration News) is a new book "Appliance Advertising & Merchandising." (Price: \$2.00.) Written by R. E. Mangan, who for the last 10 years has been advertising manager and merchandising expert for one of the largest appliance distributing firms on the west coast, the book is full of down-to-earth information on making advertising and promotion methods pay out.

Parts of "Appliance Advertising & Merchandising"—such as that below—will be published in the News from time to time, to give readers the benefit of some of Mr. Mangan's stimulating thinking, but primarily to create a desire on the part of the subscriber to get and read this very helpful book.

BY R. E. MANGAN

(From Chapter 8 "Radio Advertising")

NEWS BROADCASTS ARE POPULAR

Sponsorship of a news broadcast is a very profitable way to use radio. The advantages are many, and the cost is relatively low, for talent cost is eliminated except for the announcer—and he's usually a staff member of the station.

When you spend money for any type of radio advertising, audience must be your first consideration. Spot announcements give you someone else's audience at no cost to you. A participating program gives you an audience whose cost is shared by others. A news broadcast gives you an audience that is all your own—but again, one that costs you little, and requires little or no building up. For it is there, waiting for the news.

Recent surveys by *Fortune Magazine* and others show that more than 25% of the public gets all of its news from the radio, that more than half of us depend on radio for part of the news. The additional fact that every station, large or small, reserves several choice hours each day for news—as part of its public service—assures the sponsor of a news broadcast that he'll have a substantial audience without the fuss and worry and expense of building a show.

When people listen to the news, they listen attentively. That means that they will be alert to your sales message when it is announced. This, in itself, is a very important recommendation of news as the program material of a broadcast.

The costs involved in a news broadcast are: station time, payment for the news service, and a news announcer. Usually the station absorbs a large share of the news service cost and is quite willing to have one of its staff announcers do the broadcasting for you. This holds the cost of a news broadcast to little more than the time cost. You can appreciate the economy of a news broadcast when you consider that the talent cost for most programs runs as high or higher than the time cost.

Of course, if you hire a man with a radio name to do the broadcasting for you, your costs will run up. But this is not usually necessary. Ask the station to let you audition their announcers. Then select the one you like best, and ask to have him assigned to your news program regularly. This will give the announcer a greater interest in your program—announcers like news broadcasts because they have an opportunity to build themselves up as personalities.

Coast Store Enlarges Appliance Dept. For Increased Sales

SAN FRANCISCO—Despite the fact that appliance shipments are expected to fall off sharply during the next few months, the major appliance department of Schwabacker-Frey here is being enlarged considerably to accommodate display and handling facilities for the 65% sales increase already experienced over last year.

August, 1941 surpassed even the December, 1939 sales volume, according to Paul Prudhomme, major appliance buyer for the store. Schwabacker-Frey anticipated the present conditions and has stock enough to last until well after Christmas.

FREE! 16 pages of practical information on Anaconda Copper Refrigeration Tubes

ANACONDA

THE AMERICAN BRASS CO.
FRENCH SMALL TUBE BRANCH
General Offices, Waterbury, Conn.

Nema Prepares Manual On Electric Cookery

NEW YORK CITY—Designed especially for home economists, a 16-page "Manual of Electric Cookery" is now being offered by the electric range section of the National Electrical Manufacturers Association.

Prepared by Miss Eleanor Howe of Harvey & Howe, Inc., Chicago, the manual ties in with the government's nutritional defense program by instructing in scientific principles of cookery that will save vitamins and minerals. Full instructions for the best use and proper care of electric ranges are also included in the manual.

The manual discusses electricity as a source of heat; the electric range and its component parts; how to buy and where to place an electric range; how to use the surface units, the well cooker, the broiler, and the oven; and the process of demonstrating electric cookery.

MANHATTAN V-BELT

Cut service costs

MORE POWER

Side compressibility grips the grooves and prevents slip—flexibility gives uniform "pull."

LONGER WEAR

Endless cord floats in rubber on neutral axis—gives greater strength, resists internal heat and side wear.

SILENT RUNNING

MANHATTAN V-Belts run smoothly and quietly.

THE MANHATTAN RUBBER MFG. DIVISION
OF RAYBESTOS-MANHATTAN, INC.
45 Townsend Street Passaic, New Jersey

New Orleans Co. Trains Women To Sell

NEW ORLEANS—With the conviction that in the near future it may be difficult to obtain good specialty salesmen for all lines of major appliances, the Electrical Supply Co. here, distributor for several national appliance lines, is training young women for the difficult job of selling refrigerators, ranges, washing machines, and other home equipment.

This training is accomplished through a "sales school" developed by Electrical Supply when it was found that more than one third of all salesmen connected with the firm are subject to the draft or service in the event of war, with probably 80% lost in the latter case. The firm is sponsoring the sales school in its own building, with regular classes under Geraldine Sparr, well known local sales-education lecturer.

Girls joining the class may be any age past high school graduation, and learn all points in major appliance selling from approaching customers to making credit terms. They will also learn basic points about construction of ranges, refrigerators, etc.; telephone selling, digging up of prospects, etc.

All high schools in New Orleans have been informed of the free school, and the firm is running a regular advertisement in the "help wanted" columns of New Orleans papers advising interested girls of the class. Promising graduates are to be given immediate sales jobs, according to company officials.

'Don't Let Competitor's Sale Discourage You'

BLADENBORO, N. C.—Don't worry if a competitor beats you to the sale with another type of equipment—just keep right on selling your own product to that same customer. That's what B. O. Ward of Bridger Corp. here did, with the result that he recently replaced a \$250 flame type water heater that had been in service only six months with a 66-gallon General Electric water heater.

KERO TEST

Valves and Fittings
The Standard of the Industry

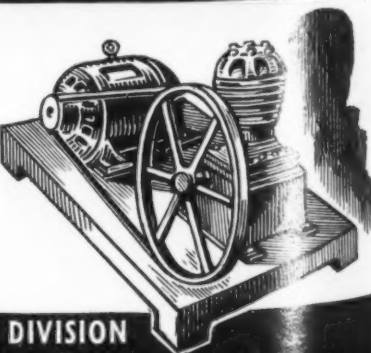
Kerotest Manufacturing Co.
Pittsburgh, Pa.

FROM 1/4 TO 25 TONS OF REFRIGERATION

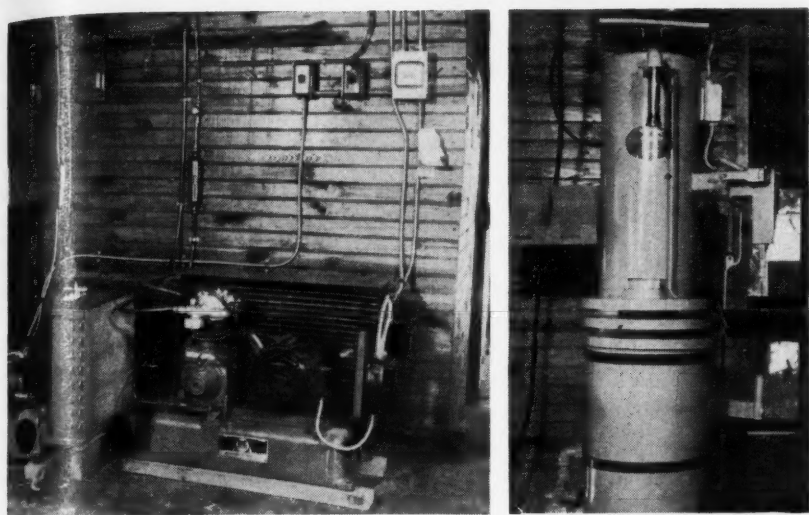
Brunner Refrigerating and Air Conditioning equipment comprises air and water cooled condensing units for practically all types of commercial applications up to and including 25 tons of refrigeration. Catalog promptly on request. Brunner Manufacturing Co., Utica, N. Y., U. S. A.

BRUNNER

FOR YEARS THE SYMBOL OF QUALITY



Cold Turkey

Turkey Farm Operates Its Own Locker
Storage and Quick-Freezing Facilities

Left—One of the three Merchant & Evans condensing units which handle the refrigeration load in the turkey processing and locker storage plant at the "Ledgelans" turkey farm. Right—The Cry-O-Vac machine which automatically envelops and seals the dressed birds in a latex bag, preparatory to freezing and storing in the lockers.

DANIELSON, Conn.—A special, exclusive type of white turkey is packed, frozen, and stored in refrigerated locker storage right on the "Ledgelans" turkey farm of J. J. Banigan, here, where this variety of turkey is raised.

Refrigeration equipment for the complete but compact turkey packing and storage plant was installed by Thomas B. Bowman of Putnam, Conn., who handles the Merchant & Evans line of commercial condensing units.

The plant, as may be seen from the drawing, has an office, packing room, killing room, chill room, freezer, and locker storage room.

The lockers, arranged three tiers high, are partly used by the farm, the balance being rented out. Apparently certain customers have Mr.

Banigan freeze the turkeys, and then hold the article for them in storage.

In the packing room the gobblers are packaged and sealed automatically by the Cry-O-Vac machine, which wraps the bird in a special latex bag and seals it.

Three M & E condensing units handle the refrigeration load in the plant. The units are a 1½-hp. machine, a ¾-hp. machine, and one ½-hp. special low temperature unit.

The unit cooler, fitted with special V-type racks, measures 12 x 14 x 8 feet, and is kept at 30 to 32° F. by a unit cooler.

In the "room within a room" insulated freezer, Stangard plates are used to hold the 4 x 6 x 8-foot compartment to -22° F.

Bush water-defrost forced draft unit holds the locker room at 0° F.

engineering, installation and service department. Showrooms located in central Manhattan, excellent warehouse accommodations, and above all, an organization headed by an individual who has been successfully associated with the refrigeration industry for the past twenty years. Prompt replies will be appreciated. Box 1369, Air Conditioning & Refrigeration News.

BUSINESS OPPORTUNITIES

ESTABLISHED SALES and service business in prosperous central New York town of 14,000 with 100,000 trading area. Owner, moving due to other business obligations, offers excellent franchises; 400 active customers, chain store service contracts. A moneymaker all year around, averaging \$25,000 gross. Moderate investment will cover inventory, location, entire going operation. Box 1371, Air Conditioning & Refrigeration News.

EQUIPMENT FOR SALE

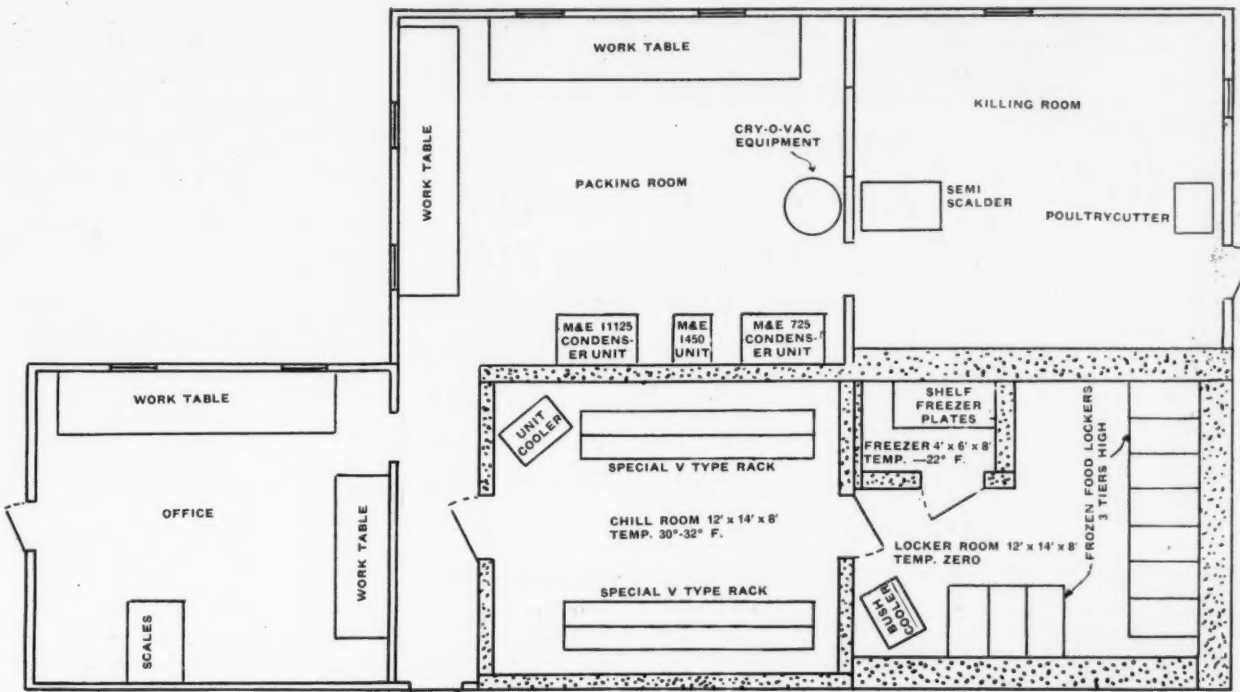
QUANTITY LATE model Westinghouse electric ranges: 20" & 38" Widths, 3 & 4 Chromalox Burners \$35.00 & \$40. 50 Crosley air-conditioners (self-contained) \$45.00. 40 frosted food cabinets (formerly \$250.00) \$45. Quantity Crosley Icy Ball units original cartons (refrigeration without moving parts) \$27.50. Prices & catalogs upon request—INTERSTATE—600 Broadway, New York, N. Y.

SURPLUS STOCK brand new Westinghouse Low-sides, complete with coils, valves, fans, manual controls, etc. 1 to 2 ton capacity. AC models \$37.50 each. DC models (easily converted to AC) \$24.50 each. Complete stock "as is" or rebuilt refrigerators, also Grunows. Write for prices. ASSOCIATED REFRIGERATOR PLANT, 3028 W. Hunting Park Ave., Philadelphia, Pa.

PATENTS

HAVE YOUR patent work done by a specialist. I have had more than 25 years' experience in refrigeration engineering. Prompt searches and reports. Reasonable fees. H. R. VAN DEVENTER (ASRE), Patent Attorney, 342 Madison Avenue, New York City.

Locker Storage Layout of 'Ledgelans' Turkey Farm



Ramage Elected Head of Oregon Locker Men

PORTLAND, Ore.—L. M. Ramage of Salem has been elected as the new president of the Oregon Frozen Food Locker Association. Oscar Hurley of Portland is the new vice president, and Jason E. Frizelle of Salem is the new secretary-treasurer.

The retiring president and secretary, E. C. Reiman of Corvallis and

Garfield Voget of Hubbard, had served in their respective capacities since the Oregon association was organized in 1936. Mr. Reiman did not miss a single meeting of the group during his five years in office.

Market Installs Lockers

CHESANING, Mich.—A 210-locker frozen food locker plant is being installed at the Roy Hill meat market here by Myers Engineering Co., Chicago.

Defense Holds Up Keys To New Locker Plant

BICKNELL, Ind.—A 100-locker frozen food storage plant was opened here Oct. 22. Effect of the defense program was felt on the day preceding the opening, when it was found that keys for the lockers could not be delivered as promptly as expected. They finally arrived just in time, however, so that a number of lockers could be rented.

CLASSIFIED ADVERTISING

RATES for "Positions Wanted," 5¢ per word; minimum charge, \$2.50. Three consecutive insertions, 12½¢ per word; minimum charge \$6.25.

RATES for all other classifications, 10¢ per word, minimum charge, \$5.00 per insertion. Three consecutive insertions, 2¢ per word, minimum charge, \$12.50.

ADVERTISEMENTS set in usual classified style. Box addresses count as five words, other addresses by actual word count.

PAYMENT in advance is required for advertising in this column.

POSITIONS AVAILABLE

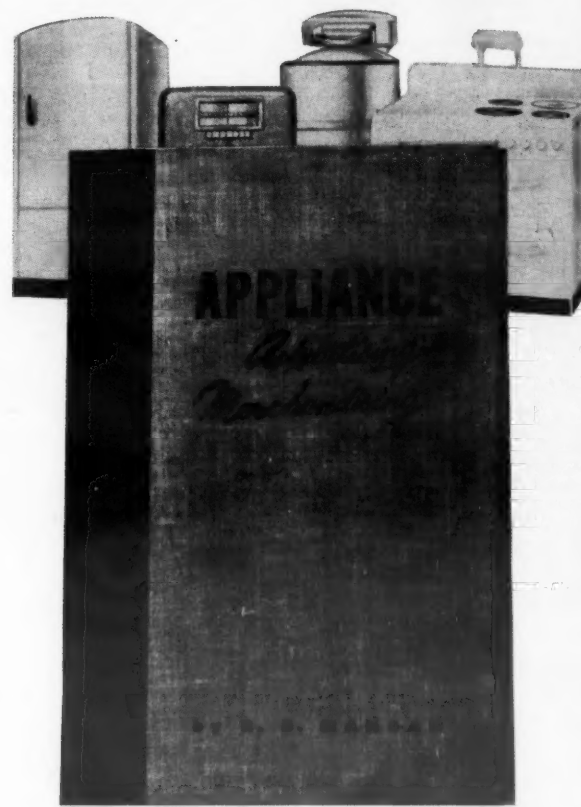
PARTNER WANTED, man with good sales record, experienced, invest \$10,000 to \$20,000. Take charge of sales organization, old established firm, manufacturing commercial refrigerators for all purposes, meats, delicatessen, beer coolers, florists, etc., also double duty cases. Large eastern city. Firm well rated, great opportunity for right man. State age, experience, etc. Box 1372, Air Conditioning & Refrigeration News.

FRANCHISES WANTED

THIS ADVERTISEMENT is directed to manufacturers of commercial refrigeration and air conditioning equipment having faith and confidence in the future of our country. This advertiser fully appreciates that many refrigeration manufacturers are hooked to capacity and are not eager to commit themselves to substantial additional business. Nevertheless, to manufacturers who ARE thinking of the future, we say, "Think of the future NOW!" To these manufacturers who are interested in SALES, we offer the facilities and services of a wide awake, hard hitting, financially responsible sales organization, equipped with a splendid

APPLIANCE MEN—

Do You Want To Save More Money?



Then Read This Book

Close in on that tormenting apprehension which is crushing so many appliance men to their knees. You can beat that bogey "uncertainty" by taking advantage of the helpful suggestions in "Appliance Advertising & Merchandising." You can increase your efficiency and save more money with which to meet emergencies brought about by fewer sales.

Every dollar lost in poor advertising now increases the uncertainty of your future. "Appliance Advertising & Merchandising" will help you save those dollars usually lost through ineffective advertising. It will help you determine the right place and the right time for your promotional expenditures, and it will give you methods and formulas for writing hard-hitting copy that really sells. Costs only \$2.

Put this "efficiency expert" to work for you. Clip the coupon today.

Here's What Is Packed Into This Best-Seller's 164 Pages

- How to be a good advertising manager of your business
- What can advertising do for your business?
- How to plan your advertising program
- Advertising quackery—Don't be a sucker
- How to make your store work with your advertising
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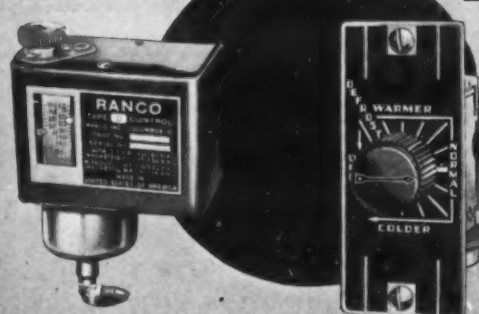
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OPM Makes Recommendations For Towns Hit By Priorities Unemployment

WASHINGTON, D. C.—The Office of Production Management has certified to the War and Navy Departments that Grand Rapids, Mich., and five other cities in which electric refrigerator and other appliance manufacturing operations are concentrated face severe unemployment due to shortage of materials for non-defense production, and should be given special consideration in the placing of defense work.

In addition to Grand Rapids, a city of 246,000 population, the areas certified for special treatment were Greenville, Mich.; Ripon, Wis.; Newton and Kellogg, Iowa; and Mansfield, Ohio.

The certifications were based upon investigations by the Labor Division of OPM as to the employment situation in each community and investigations by the Contract Distribution Division of OPM as to the defense production possibilities. Remedial programs were recommended in each case.

Summaries of each certification follow:

GRAND RAPIDS—Of the city's 40,000 manufacturing workers, more than 20% may be unemployed by next January unless additional defense work is placed in the community. Layoffs already have occurred in plants making refrigerators, automobile parts, refrigerator hardware and building hardware, metal furniture, and metal cabinets. On the basis of a survey of selected companies, only 13% of the workers in manufacturing plants are now engaged in defense work.

To remedy this situation, OPM recommended that consideration be given to the placing of contracts for a long list of defense items ranging from shell cases and wooden furniture to hardware for trucks and tanks.

GREENVILLE

GREENVILLE, MICH.—Greenville, with a population of 5,321, has been affected seriously by restrictions upon the production of refrigerators. Gibson Electric Refrigerator Corp., largest single employer, has reduced its employees to 962 from a normal figure of 1,350 and further reductions are in sight. Alleviation of this situation will also assist the city of Belding, Mich., seven miles away, whose population of approximately 4,000 is largely dependent upon the Gibson plant for employment.

The remedial program for Greenville calls for consideration of opportunities for negotiating contracts with firms in the area, with particular attention to awards involving certain operations and defense items ranging from ammunition cases and bomb fins to ambulance sidecars for motorcycles. The OPM recommended also that consideration be given to the practicability of using facilities in the community on the production of plastic items.

RIPON, WIS.—This community of 4,500 has been affected seriously by shortages of aluminum and other scarce metals for non-defense production. The Barlow-Seelig Mfg. Co., largest employer of skilled male labor, has reduced its employees from 440 to approximately 320, with further layoffs impending.

OPM recommended that the Services give consideration to opportunities for negotiating contracts in the town, with special consideration to a plan for the high-speed manufacture of aluminum airplane rivets.

NEWTON AND KELLOGG, IOWA

—Present unemployment of over 500 in this area will be increased by approximately that number by January, 1942, as a direct result of priority pressures. Approximately three-fourths of the area's industrial employment is in three washing machine plants, including Maytag Co., Automatic Washer Co., and Midwest Metal Stamping Co.

In considering solutions, the OPM said, it must be recognized that difficulty in separation of machinery from the production line is one of the major problems and that attention must be given to a program for training within industry to make it possible for workmen of present skills to take up work of more exactitude required in defense production.

MANSFIELD

MANSFIELD, OHIO—This city of 37,000 is largely dependent on the manufacture of durable consumers goods. Present factory employment is in excess of 13,000 workers, of whom about one-third are employed by Westinghouse Electric & Mfg. Co., which normally manufactures electric refrigerators, ranges, water heaters, and electrical appliances.

As a result of curtailed refrigerator production, Westinghouse has already laid off more than 700 workers and it is estimated that a substantial additional number will be laid off in the immediate future. Westinghouse is shifting to its Mansfield plant a substantial amount of other work from other plants, even though this involves greater cost; but it is unable to make this shift rapidly enough to prevent unemployment.

Other important industries which face labor displacement include Tappen Stove Co.; Humphreys Mfg. Co., which produces bathroom equipment; and Dominion Electric Co., which produces electrical appliances.

Net labor displacement was estimated at 2,500, and there is a possibility it may go even higher unless additional defense work is placed in the community.

The remedial program recommended includes consideration to the negotiation of contracts and the placing of trial orders and "such additional measures" as procurement officers deem feasible.

Revised Regulations Of Wage-Hour Law Simplify Records

WASHINGTON, D. C.—Recently revised regulations simplify, in some instances, the keeping of wage and hour records of the more than 15,500,000 workers employed by 350,000 concerns affected by the Fair Labor Standards Act, while in other cases additional information is now required from employers, according to Brig. Gen. Philip B. Fleming, administrator of the wage and hours division.

Employers paying on a semi-monthly instead of a weekly basis may now record daily instead of total weekly straight-time earnings, but as to hours daily and total weekly, recording is still required under the new regulations.

A record must now be kept of the total wages or salaries paid to executive, administrative, professional employees, and outside salesmen during each pay period, although these employees are not within the wages and hours requirements of the law. The basis on which these workers are paid must also be shown.

Another new requirement is that employers must preserve for two years the originals or true copies of customer orders or invoices received, incoming or outgoing shipping or delivery records, as well as all bills of lading and all billings to customers which the employer makes in his operations.

Employers still have to keep records as required by other Federal agencies such as the Bureau of Internal Revenue in the matter of social security taxation or state and municipal regulations, regardless of the revised regulations of the wage and hour division.

It is pointed out, however, that the wage and hour division requires no set form for the records, nor that all

information and data be carried, item by item, on each payroll. The employer must merely maintain legible records containing the necessary information.

If additions to or deductions from cash wages for rent, company store purchases, etc. do not affect minimum wage or overtime requirements, they may now be recorded on a pay period basis, the new regulations read. If they affect cash payments of the minimum or overtime payments, they must be recorded on a weekly basis.

An additional requirement is that employers covered by the act must record the name, address, occupation, and place of employment, as well as the date of birth if under 19, of employees exempt from the minimum wage and 40-hour week. Such employees include those of local retail and service establishments, seamen, air lines employees, employees in the fish industry, agricultural workers, employees of small weekly or semi-weekly newspapers, employees of local traction companies, workers in small establishments processing certain agricultural commodities, and employees of country telephone exchanges of less than 500 stations.

In announcing the revised regulations, General Fleming said that about one-fourth of 48,000 inspections made in the last fiscal year revealed employers technically violating the act by failing to keep prescribed records. While the law requires no set form of records, accurate information on the number of hours employees have worked must be available to the wage and hour division, General Fleming stated.

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Keep 'Em Dry—

Operation of Drying Agents Described To
Illinois RSES In Unusual Speech

'Long Distance' Carries Talk To Aurora, Ill.

AURORA, Ill.—Relationship between drying agents and defense, and the particular advantages of Silica Gel as a dehydrating medium for refrigeration systems, was explained by R. B. Stevenson of the Silica Gel department of Davison Chemical Corp. to the Illinois convention of the Refrigeration Service Engineers Society at Aurora, Ill. over a two-way long distance telephone hookup from the Davison company's headquarters in Baltimore.

Originally scheduled to address the convention in person, Mr. Stevenson was unexpectedly called back to Baltimore. To avoid leaving a gap in the convention program, the two-way long distance hookup was arranged so that Mr. Stevenson could not only address the service men but also could answer any questions from the floor.

Importance of the part which drying agents will play in keeping the nation's refrigeration systems going during the existing emergency was heavily accented by Mr. Stevenson in his telephone address.

"We feel that the curtailed produc-

tion of new units will materially increase demand for service as time goes on," he declared, "and will result in the operation of equipment long beyond its normal life for the next few years. We feel that drying agents will have a very definite place in this picture.

"As equipment is called upon to operate beyond the time of normal life, it is obvious that increased parts-replacement is necessary, and more general repair work involved. This necessitates more frequent opening of the system in the field.

"Whenever such an operation occurs, moisture in varying amounts inevitably gets into the system. Obviously, if performance is to be maintained, the problem of moisture removal becomes increasingly important.

"The most effective and the most economical solution to this problem (both from the cost standpoint and from the point of view of conserving critical materials) is to remove this moisture by means of drying agents.

"Further, where units are operated beyond their normal life, difficulties from acids, sludge, and other results of moisture being present in the system multiply. Therefore, in addition to removing the moisture which is introduced into the system during repairs, it is extremely desirable to remove any impurities which may have accumulated in the system.

"Let us now review what materials are available for this dual purpose.

USABLE MATERIALS

"As far as moisture removal is concerned, we have a group of materials that works very effectively. Practically all of the materials such as calcium chloride, calcium oxide, calcium sulphate, aluminum hydrate, and Silica Gel, will remove moisture from a system, but with varying degrees of effectiveness and capacity.

"However, since the present problem involves not only the question of removal of moisture but also the removal of other impurities, let us review these materials from this point of view.

"Calcium oxide, calcium chloride, calcium sulphate, and others in this group remove moisture by forming a new chemical compound consisting of the original material plus water. This is a chemical reaction and, therefore, is limited in application exclusively to moisture.

"In the case of calcium oxide, there is a further chemical reaction with acids that may be present which results in the neutralizing of the acids to form calcium salts and the liberation of additional moisture. Obviously, this is not a desirable means of removing acids.

"In the case of two materials, aluminum hydrate and Silica Gel, moisture is removed by means of a physical action consisting of surface adsorption and capillary attraction. The action of these materials is not limited exclusively to moisture. They will also adsorb acids, gum-forming compounds, etc., which may be present in the system, so that the effect of these materials is not only to dehydrate but also to purify the system.

REACTIONS TO CONSIDER

"In addition to the ability of drying agents to take up moisture and other undesirable impurities, there are other reactions which must be given consideration. For example, in the using of calcium chloride, if excess quantities of moisture are present this material may go into the liquid state, and carry through the system.

"In this form, CaCl_2 is extremely corrosive. Calcium oxide, for example, has a definite tendency to cake and increase back pressure to a point of plugging the system. Either of these reactions are dangerous and definitely undesirable.

"In the case of Silica Gel, there is no caking and no dusting. As explained before, its action is physical not chemical, the material being inert in character.

"What effect does Silica Gel have on a system in which an inhibitor such as alcohol or some of the similar trade-marked products has

been added? The answer to this question is that Silica Gel removes the moisture and the inhibitor in essentially the same proportions as they exist in the refrigerant stream.

"For example, let us assume that a system has a teaspoonful of water in it. To this system has been added three teaspoonsful of alcohol.

"When a dryer charged with Silica Gel is installed in this system it will have to take up not just the teaspoonful of water, but four teaspoonsful of the mixture of water and alcohol, since the water is in solution with the alcohol. In this case the effect is to require a dryer approximately four times normal size, since the load on the dryer is increased by the amount of alcohol that has been added.

"I believe that this point on removal of inhibitors is one that it would be well to bear in mind.

IF SCREEN BREAKS?

"What will happen in the event of some extreme case where a screen might break in a dryer that is charged with Silica Gel? This is certainly not going to improve operation of the system, and every effort should be made to prevent this happening. However, no damage shall result that cannot be cleared up by cleaning the system out, since Silica Gel is not abrasive.

"Silica Gel getting loose in the system might plug the expansion valves or other restricted parts of the system, but it has been very definitely proved by several of the largest manufacturers of equipment that Silica Gel in a compressor will not cause permanent damage.

"One company made a test wherein they intentionally introduced into the crankcase of a compressor a teaspoonful of Silica Gel. This compressor was run for 90 days under full load conditions, after which it was dismantled and inspected. There was no sign of damage to piston, cylinder walls, bearing, or other parts as a result of the Silica Gel having been present.

"How effective is Silica Gel on the various types of refrigerants? Silica Gel can be used and is being used with complete satisfaction for the dehydration of all refrigerants with the possible exception of ammonia. By 'all' refrigerants, I include the 'Freon' group, the methyl-methylene chlorides, sulphur dioxide, and hydrocarbon gases such as butane, propane, etc. We do not generally recommend its use with ammonia.

"Silica Gel can be reactivated, but we don't recommend it.

NOT CRITICAL

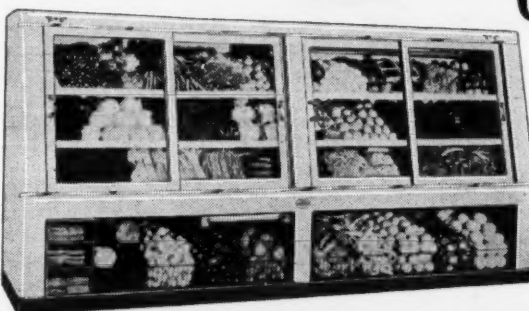
"Silica Gel is not a critical material. We have been able to make shipment on all orders, and expect to be able to do so in the future without difficulty, so that there is no particular occasion for conservation of Silica Gel from the point of view of national defense.

"But the reason that we do not recommend its reactivation is that after Silica Gel has been used in a system, there is oil present and there may be many other impurities present. In reactivation, these impurities may react with the shell of the dryer or the screens to weaken these parts. In the case of oil, carbon deposits would certainly be left in the Silica Gel pores, which would decrease its efficiency.

"In an emergency where a replacement dryer is not at hand, a Silica Gel charged dryer can be baked out in an ordinary oven at a temperature of from 300° to 500° F. The inlet and outlet, of course, should be left open during this operation and the cartridge should be baked for a long enough time to be sure that all of the Silica Gel has been raised to at least 300° F."

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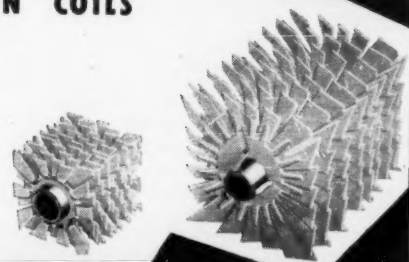
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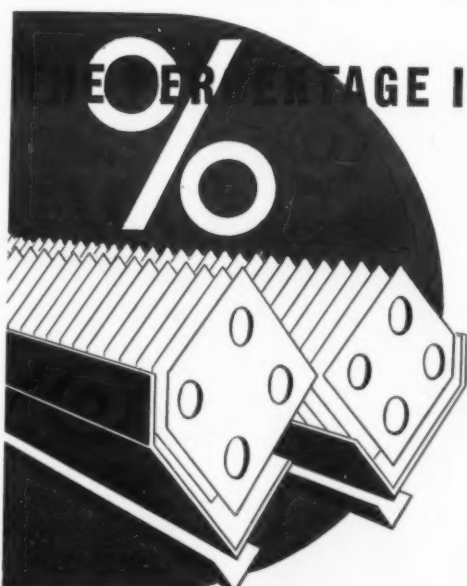
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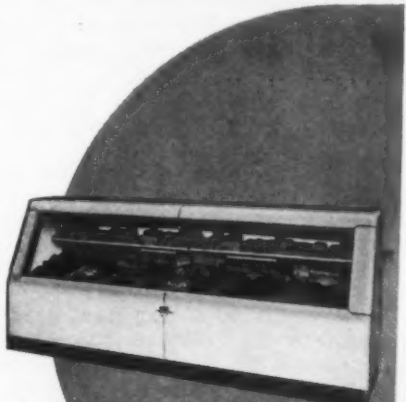
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NORTH KANSAS CITY, MISSOURI
You'll make money selling KOCH



Minor Change In Electrical Leagues Will Base '42 Drives P-22 Announced On Servicing Appliances to Keep Market

(Concluded from Page 1, Column 3)
sible, and in many cases undesirable, to require replacement with equipment exactly like the old. The procedure frequently held the producer to the use of antiquated equipment, and sometimes made it impossible for him to obtain any replacement equipment at all.

AMENDMENT NO. 1 TO PREFERENCE RATING ORDER NO. P-22 AMENDED

(a) Section 958.1 (Preference Rating Order No. P-22 Amended paragraph (b) (1) is hereby amended to read as follows:

"(b) (1) 'Producer' means:
(i) any governmental unit;
(ii) any individual, partnership, association, corporation, or other form of enterprise engaged in one or more of the following activities or acting in one or more of the following capacities to the extent that it is so engaged or so acts:
a) manufacturing, processing, or fabricating;
b) warehousing—maintaining warehouses for storage or distribution of any material;
c) wholesaling—acting as a distributor of products sold to manufacturers, wholesalers, retailers, or other persons not consumers;
d) charitable institutions—any charitable or eleemosynary institution which is recognized as such for purposes of the Internal Revenue Laws of the United States;
e) carriers—urban, suburban, and interurban common or contract carriers of passengers or freight by electric railway, electric coach, motor truck, or bus, including terminals of any of the foregoing; railroads, including terminals; shipping—commercial carriers of freight and passengers by ocean, lake, river, or canal, including terminals;
f) educational institutions (including vocational training);
g) printers and publishers;
h) radio—commercial broadcasting and communication;
i) telephone and telegraph communication, including wire services;
j) hospitals, clinics, and sanatoriums;
k) Petroleum and Natural Gas—discovery, development, and depletion of pools of petroleum and associated hydrocarbons, and transportation of petroleum, associated hydrocarbons and derivatives thereof;
l) irrigation systems, whether publicly or privately owned; toll bridges and toll canals.
(iii) Any person using tools or equipment to repair or maintain the property of any Producer as defined in (b)(1)(i) and (ii)."

(c) Section 958.1 (Preference Rating Order No. P-22 Amended paragraph (b)(6)) is hereby amended to read as follows:

"(b)(6) The terms 'Maintenance,' 'Repair,' and 'Operating Supplies' do not include Material:
(i) for the improvement of a Producer's property or equipment through the replacement of Material in the existing installation, unless such equipment is beyond repair;
(ii) for additions to, or expansion of, such property or equipment;
(iii) which is of a type not heretofore carried on the Producer's books under 'Maintenance,' 'Repairs,' 'Operating Supplies,' or the equivalent."

(d) The terms 'Maintenance,' 'Repair,' and 'Operating Supplies' do not include Material:
(i) for the improvement of a Producer's property or equipment through the replacement of Material in the existing installation, unless such equipment is beyond repair;
(ii) for additions to, or expansion of, such property or equipment;
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(Concluded from Page 1, Column 1)
had as a result of this year's boom, "and go out and do a sales job."

"Not only will the appliance industry be faced with a shortage next year," Mr. Hirose said, "but it will also find that certain policies which have ruled its performance in the past are in apparent conflict with the wishes of government officials. I say 'apparent conflict,' because I believe that essentially the aims of the appliance industry and those of the social planners here in Washington are the same—both want a wider use of labor-saving appliances, wiring, and lighting—both want a higher standard of living for the American family. There is a difference of opinion about methods."

WANT LOW-PRICED UNITS

"Some of the government people feel the best way to achieve quickly a wider distribution of appliances is to encourage the manufacture and sale of low-priced appliances, stripped down to their basic elements."

"You in the appliance industry have also wanted wider sale and use of appliances. But very properly you've pointed out that nobody would want an automatic refrigerator, or a modern efficient range, or vacuum cleaner, unless enough of these appliances were around in a lot of stores for people to see and desire them. You've pointed out that there must be a sufficient margin in the price of appliances to take care of proper distribution channels and promoting goods."

"You've pointed out that distributors, dealers, and retail salesmen are needed if any quantity of appliances are to be sold, and that all these laborers are worthy of their hire. You've pointed out that much appliance selling is specialty selling, and that the higher-priced appliances with their extra features not only fit into specialty selling, but also provide the margin for large-scale promotion and education. You have been willing to see appliances reduced in price, provided adequate margin is still left for profits."

NOT MUCH CHOICE

"This coming year there won't be much choice left to the dealer as to what types of appliances he gets to sell from the factory. He will pretty much have to take those sizes, models, and styles which the factory gives him. The dealer obviously will not refuse to sell any consumer who wants to buy, and who can either pay the cash or meet the time-payment terms the government has ordered."

"And yet the dealer has a choice in the type of customers he concentrates his selling effort on. I wonder if conditions do not forecast a type of selling that will not only satisfy the wishes of the social planners in the government, but also meet the needs of the appliance industry. This type of selling is a greater emphasis on the replacement market."

"The great benefit to the appliance dealer in concentrating his efforts against the replacement market is that with trade-ins it is possible, despite the shortage of new appliances, to make two sales instead of one, and to keep two customers satisfied."

25½ MILLION CUSTOMERS

"The 25½ million appliance owners are the appliance industry's customers. They are real reasons why the appliance dealer is in business and will be in business after the emergency, provided he takes care of his customers."

"The habits of people in the use of appliances, carefully and expensively developed over the years, can quickly change if we don't keep telling and selling our story of the service of modern appliances. The woman, whose mixer or washing machine goes bad, can almost unconsciously revert to whipping up a batter by hand or calling in the local commercial laundry to wash and iron her clothes. The dealer who actively solicits the repair and service business on old appliances may well be quite successful in preserving a large slice of his normal decrease in dollar sales volume."

"Undoubtedly, there will be a reservoir of demand for appliances built up in these emergency days," he continued. "That demand will have to be handled by dealers—the

dealers who can survive. I expect that we'll see some mortality in the dealer structure, because some dealers won't have what it takes to go through an emergency. So there may be fewer appliance dealers left when the defense effort is over, but they'll be better dealers."

In pointing out that the industry would be wise in keeping up, and even increasing, the amount of selling, promotion, and advertising that it is now doing, Mr. Hirose bolstered his contention that 1942 will be a buyer's market by emphasizing that broader taxes, higher taxes, and higher prices—none of which have affected this year's business to any large extent—will hit with a heavy blow next year."

Importance of servicing in keeping appliance retailers in the picture also was emphasized by G. W. Weston, secretary-manager of the Electric Association of Kansas City, who pointed out that electrical leagues, being cooperative organizations, can fill a vital place in all such activities in their individual communities."

Sales have slumped in many areas since the recent instalment selling terms went into effect, he said, and only a part of this slump has been due to shortages of merchandise. In many cases, the prospect just couldn't dig up the 20% down payment."

"How can this situation be relieved?" he asked. "By better sell-

ing—more calls, harder work, locating the families who have larger buying power. To beat the instalment terms, point out, for example, that a \$150 range at \$2 down and four years to pay costs \$186; at 20% down and 18 months terms, the cost is only \$131. This is a saving of \$55, enough to pay for another new appliance."

More emphasis also should be placed on sales training, Mr. Weston advised—sales discussion periods, for example, to permit the men to benefit from the experiences of others. Cooperative campaigns also are helpful, especially if the emphasis and rewards are on the basis of intelligent sales calls and increased dealer floor traffic."

All possible diversion of appliance trade to "wholesale buyers" also must be stopped if retailers are to survive, Mr. Weston said.

Dealer bulletins also are important in these times as morale builders, Mr. Weston asserted, and he advocated that monthly meetings of dealers, with distributors as hosts, also would do much to keep selling spirits high in the face of coming discouragements."

What can "specialty" dealers—dealers who handle only appliances—do to keep going in the days of merchandise shortages and shrinking volume ahead? Here are some of Mr. Weston's suggestions:

Take on other lines of equipment—toys, kitchen novelties, paint, records, small furniture, lamps, china and glass. All such moves, however, must be well publicized—by advertising, direct mail, and telephone solicitation.

Get your full profit on every sale.

Proper servicing, important today, will be even more important in the future, Mr. Weston asserted. The New England Gas & Electric Association has an "old business" department to handle this; Chattanooga Power Board has a 20-man repair department which last year rebuilt 146 ranges and refrigerators for dealers.

To get service business, Mr. Weston emphasized, the dealer must "personalize" his store.

Dealers Band to Keep Up Interest in Conditioning

(Concluded from Page 1, Column 2)
the council is sponsoring a "question and answer" column in the "Indianapolis Sunday Star," advising merchants and homeowners of the current status of the air conditioning industry from week to week.

Prospects for air conditioning systems are being urged to plan their installations now, while estimating and engineering facilities are available from member firms in the council. Various firms plan advertising based on this theme, even though equipment to complete the installations is not immediately available.

According to Mr. Hildreth, no serious shortage in sheet metal or other items used to complete an air conditioning installation has been felt in Indianapolis up to the present time. While deliveries of refrigerating machines, in some sizes at least, are reported slow, members of the council report that they have been able to complete all installations.

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... all the richest source of health-giving vitamins, foundation foods for the buoyant health that makes America strong, give Americans the energy for today's emergencies . . . have a common enemy! It's decay, bacterial deterioration that might quickly sap their health-protecting, health-building benefits.

A relentless, uncompromising Enemy, true, but definitely

"licked" today by the marvels of modern REFRIGERATION!

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